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Prostatic Resection in the Poor Risk Patient*

HARRY M. SPENCE, M.D.

DALLAS, TEXAS

No one can now doubt that transurethral prostatic resection is an efficient method of relieving the bladder neck obstruction. All urologists consider this method as first choice in dealing with the contracted bladder neck, the median bar, the small middle lobe and extensive carcinoma. Some hold that the indications close with the above conditions, while the more ardent advocates of the procedure consider that all types of enlargement, irrespective of size or location, are suitable for resection provided the instrument can be passed. For our purposes in the present communication it will suffice to say that in proper hands the transurethral operation may be expected to give satisfactory results in the great majority of cases.

The bulk of the recent extensive literature on this subject has dealt with the technical details; has compared and emphasized the lower mortality of resection versus prostatectomy; has stressed the value of the early prophylactic resection, and has pointed out the economic saving of the markedly shortened hospitalization of resection cases. While mentioning, it has only secondarily dwelt on the value of this procedure in the poor risk patient. This, of course, is as it should be for any new operation must first demonstrate its superiority on cases uncomplicated by pathology extraneous to the lesion it is to correct and only in this fashion can we evaluate its intrinsic merits and limitations.

Granted, then, that in properly trained and skillful hands resection is mechanically capable of giving satisfactory functional relief in a high percentage of prostatic obstructions, can it be extended to include that large group of cases designated as poor risks, to whom the operative relief of prostatectomy has formerly been denied? From our experience in the past two years we believe it can be used, not with impunity to be sure, but with a degree of safety hitherto impossible. We wish to demonstrate this by a critical analysis of the poor risk patient with illustrative case histories. It is to the general practitioner rather than to the urologist that this thought must be directed for it is most often the advice of the former which decides whether and what operation is to be performed. At this moment when charlatanism in this field is so rampant intelligent cooperation of our different medical groups is particularly essential.

First in this study we must decide what constitutes a poor risk and wherein the operative hazard lies. Most such cases fall into one or more of four general categories. In order of frequency and importance these have been found to be: (1) cardio-vascular disorders; (2) renal insufficiency; (3) malignant disease; and (4) the neurological group. Old age *per se* is not included; this acts as a factor only insofar as it is asso-

*Read before the Genito-Urinary Section, Annual Meeting Oklahoma State Medical Association, Enid, April 7, 1936.

ciated with pathology in the aforementioned groupings.

CARDIO-VASCULAR DISORDERS

It is self evident that prostatic obstruction develops most commonly in that age group in which disease of the cardio-vascular system occurs. The age incidence of arteriosclerosis, hypertension, coronary occlusion and chronic myocarditis parallels closely that of prostatic obstruction.

Significant cardio-vascular pathology has rightly been regarded as a contra-indication, relative or absolute, to operations of election and has accounted for many fatalities where surgical intervention has been imperative. The reason for this lies in the danger of a general anesthetic, the operative shock and blood loss in a system with weakened links and low reserves. Prostatectomy has been excluded on these grounds in many instances in the past and the label of a "bad heart" has doomed many old men to a catheter life. Resection, on the other hand, is particularly suited to these cases because it avoids just these results of hemorrhage, shock and anesthetics that predispose to heart failure and vascular accidents. Furthermore it permits early mobilization of the patient and in this way lessens the danger of hypostatic congestion and pneumonia.

Neither the presence of hypertension or arteriosclerosis nor a history of coronary occlusion or decompensation in the past should, taken by itself, rule out a resection. Obviously these factors must be given their due weight in prognosis just as they would be taken into consideration apart from the contemplated operation. The fundamental facts in deciding whether a heart will stand a resection are the presence or absence of decompensation and the degree of cardiac reserve. Decompensation is easily detected and is of course an absolute bar to operation unless corrected. The most useful test of cardiac reserve is also the simplest, namely the response to exertion. By noting the distress incurred in a brisk walk up and down the hospital corridor or climbing flights of stairs we believe a much more valuable and definite idea as to the status of the circulatory system can be obtained than by seven-foot heart plates, electrocardiograms and cardiac consultants.

In brief, any patient not in decompensation at the moment and not overly distressed on moderate exertion is a legitimate candidate for a necessary prostatic resection.

Two cases illustrative of some of these observations follow:

Case No. 1: P. C. H., 17,735—A sixty-year old retired American business man entered the hospital complaining of frequency and dysuria of several months duration. Complete retention set in several days before entry. Three years before the patient had a stroke and almost died, since which time the left side of his body had been paralyzed.

Positive physical findings were a complete left spastic hemiplegia; B. P. 260/150; prostate moderately enlarged. Blood urea 24 mgm. Urine, trace of albumin. R. B. C. two plus. W. B. C. three plus. Cystoscopy showed a moderate enlargement of both laterals and median lobe of prostate; a vesical calculus 2.5 cm. in diameter and a papillary tumor c cm. in diameter arising above the trigon.

After several days of catheter drainage, the obstructing prostatic tissue was resected under sacral anesthesia. Five days later the tumor was fulgurated through the operating cystoscope and a litholapaxy done. The convalescence after both operations was smooth. The temperature never was over one hundred degrees. There was no residuum on discharge. Total hospital stay was eleven days. Ten months later the patient was reported in excellent health and spirits with no significant urinary symptoms.

Case No. 2: P. C. H., 18,099—An eighty-two-year old retired engineer was admitted with an acute retention of twenty-four hours duration. For several years he suffered with increasing frequency, dribbling and dysuria. One year previously he had an attack of coronary occlusion and decompensation from which he gradually recovered.

On examination there was generalized arterio-sclerosis, cardiac enlargement, auricular fibrillation, a distended bladder and a tremendous enlargement of the prostate, obviously carcinoma. B. P. 190/110. The patient was digitalized and

drained by catheter. After eleven days of preparation he was given a sacral block and resected. The temperature never rose over ninety-nine degrees. He was discharged on the eighth day with no residuum and no complaints. He lived in comfort for four months, then died suddenly of a cerebral hemorrhage.

IMPAIRED RENAL FUNCTION

The next cause for regarding a patient as a poor operative risk is impaired renal function. Fortunately the kidneys have a large reserve factor. In fact they can be extensively diseased before clinical symptoms supervene or before the usual tests of renal function (*e. g.*, blood nitrogen and P. S. P. excretion) show abnormal values. By the same token evidence of renal failure is cause for grave deliberation in subjecting a patient to operation on the prostate.

The impairment depends on several factors: (1) degeneration of kidney parenchyma due to chronic vascular nephritis; (2) destruction from back pressure; and (3) suppression of function caused by infection (pyelonephritis). It is evident that some of the damage is permanent and progressive, however by eliminating the back pressure and infection the excretory function will improve greatly if too extensive anatomic damage has not already taken place. It is here that pre-operative preparation plays its vitally important role.

Given a patient with evidence of renal insufficiency his rating as a risk depends on his response to bladder drainage, abundant fluid intake, and urinary antiseptics. Here resection demands essentially the same high standards as prostatectomy for the transurethral procedure offers little extra latitude because if the kidneys cannot handle a minimum load under favorable preparatory measures they will not do so post-operatively. Furthermore an operation on any part of the urinary tract will reflect itself as a strain on the kidneys due to the inevitable trauma and infection, minor though they be. It is true that resection places much less of an immediate operative burden on the kidneys, but to offset this its tendency to engender significant post-operative urinary sepsis in approximately twenty per cent of the cases must be recognized.

However there is a class of patients formerly denied prostatectomy or submitted to it with misgivings where resection seems to work fairly well. In the instances referred to, by the recognized pre-operative measures all evidence of poor function clears up but the laboratory data remain at unsatisfactory levels. Such a man would formerly be sent home on suprapubic drainage for an indefinitely prolonged period. After admitting the precarious status of such individuals several such patients have been resected with no untoward results. Apparently, then, our new modality gives us a limited license to disregard laboratory data if the clinical picture is inviting. Two case histories demonstrating this follow:

Case No. 3: P. C. H., 17,433—A sixty-seven-year old cobbler had suffered from difficult urination for four years, with recurrent attacks of severe pyelitis. Examination showed a man markedly dehydrated, drowsy, with a septic temperature. The bladder contained eight ounces of purulent residual urine. The prostate was moderately enlarged.

The patient was prepared by catheter drainage, fluids, intravenous methenamine. His general condition improved greatly, although the blood urea nitrogen was never below twenty-six mgm., and the P. S. C. excretion was low. However under sacral anesthesia the prostate was resected. An uneventful afebrile convalescence followed. Fourteen months later this man is doing normal labor with no evidence of poor renal function.

Case No. 4: P. C. H., 17,840—A fifty-two-year old farmer entered complaining of generalized weakness, back pains, frequency and small stream of one year's duration. Four years ago he had a perineal drainage of a prostatic abscess.

On examination both kidneys were palpable and tender. The prostate was moderately enlarged and the bladder contained three ounces of dirty residual urine. Cystoscopy and pyelography revealed bilateral hydronephrosis with infected urine from both kidneys. There was a two cm. papillary growth above the trigone which was fulgurated. The blood urea was twenty mgm. Only a trace of indigo carmine ap-

peared in fifteen minutes after intravenous injection.

After some days of drainage the patient was given a sacral anesthesia and the obstructing prostatic tissue resected. The convalescence was stormy with repeated chills and fever reaching 105 degrees, but eventually flattened out, and he was discharged relieved. When observed eight months later he was in good shape except for an attack of hematuria. Fulguration of a papilloma was advised.

MALIGNANCY

At the present stage of our knowledge the satisfactory palliative control of cases beyond hope of cure is our chief problem in dealing with carcinoma of the prostate. That patients with malignancy stand operation poorly is axiomatic in surgery. The occurrence of metastases makes radical attack on the local growth futile. The common necessity for repeated operations as the tumor recurs demands a relatively benign procedure both from the medical and economic point of view.

Transurethral resection supplies the answer to these considerations in malignancy of the prostate. Experience has shown that it can be applied repeatedly to unpromising cases of prostatic neoplasm with a high degree of functional relief. Two case histories bringing out the above points follow:

Case No. 5: P. C. H., 17,081—A fifty-four-year old engineer entered the clinic December 2, 1933, with an acute retention of sudden onset. A two stage suprapubic prostatectomy was done. The specimen was diagnosed carcinoma at this time. He was given x-ray therapy, and did very well for eight months when symptoms of obstruction again set in and he finally reentered the hospital December 11, 1934. By rectum the growth palpated was tremendous. By cystoscope there was seen a scalloped protrusion of tissue all about the bladder neck which was resected. The patient made a smooth convalescence, and was discharged after an eleven day hospitalization and one week later he was back at work.

For six months he was in excellent shape, then evidence of bony metastases to the spine and cord symptoms appeared. He died six months later of general carcinomatosis, yet at no time did he have any significant trouble with his bladder.

Case No. 6: L. S.—A sixty-nine-year old retired business man was seen in consultation with Dr. William Leslie. One year previously he had an attack of acute retention which was relieved by suprapubic cystotomy and six months later a cautery punch operation was done. He received only partial relief from this and the suprapubic sinus would not heal in spite of excision and resuture. When seen by us his general condition was poor. There was evidence of cardiac and renal disease. The prostate was large, hard and fixed and obviosuly carcinomatous. There were eight ounces of foul residium and constant leakage from the sinus.

It is difficult to imagine a more unfavorable case than this. Howevere something had to be done, so under sacral anesthesia resection was performed. The patient made a good recovery and was discharged in two weeks with the sinus healed, no residium, a forceful stream, and feeling well. He had no further bladder trouble for the eight months prior to his death from a coronary thrombosis.

NEUROLOGICAL GROUP

Senile dementia and tabes dorsalis are the forms of neuropathology which make one pause before deciding on operative intervention in cases of prostatism in this group. In the former group mental derangement and lack of cooperation make repeated catheterization difficult for patient and attendant alike. Symptoms make relief imperative yet the outlook for any further useful existence or extended span of life is so limited as to rule out a prostatectomy. A resection here makes the daily care much less onerous and in addition an unexpected clearing up of the mentality may be the reward after distressing bladder symptoms are eliminated.

In the tabetic a different problem is presented for here it must be decided how much the retention is due to impaired nerve function and how much to the mechanical obstruction. Recent studies show that the cystometrogram is invaluable in this connection. To date we have not used this new aid but have been governed by the cystoscopic picture, *i. e.*, if this revealed obstructing tissue we have felt that

it should be resected to lighten the load of the damaged neuro-muscular system of the bladder. Prostatectomy in this group was formerly rarely performed. Two cases in point are presented:

Case No. 7: P. C. H., 17,652—An eighty-three-year old retired farmer was admitted to the hospital in a maniacal condition. Two years previously he had been hospitalized three weeks for a senile psychosis and since then he had frequent attacks of dementia. He had dificult, frequent urination and evidence of urinary sepsis for several years.

At the time of the present entry the prostate was moderately enlarged. The bladder was distended to the level of the umbilicus and there was a constant dribbling. The patient fought vigorously against catheterization. After several days of preparation he was resected under sacral anesthesia supplemented by scopolamin. He made a slow convalescence but eventually resumed normal bladder function and his mentality cleared up. Now eleven months later he is in better condition than he has known for years.

Case No. 8: I. H.—A forty-seven-year-old painter was seen in consultation with Dr. V. R. Hamble. He had a C. N. S. leutic infection of many years' duration which vigorous treatment had finally arrested. However many of the stigmata of tabes were still present. He had dificult, frequent urination and a large residuum. By rectum the prostate was small and by cystoscope a definite median bar and contracted bladder outlet were visualized.

A resection was done and a short, satisfactory convalescence ensued. His stream was large and the bladder emptied itself.

ACCESSORY MEASURES

All authorities agree that the preparation for resection must be as rigid as for prostatectomy, for to attempt short cuts here is to invite disaster. The routine preparatory measures are too well known to need repetition, however in handling these poor risks certain accessory measures have been found to promote a successful outcome.

I. VASECTOMY

In the first place bilateral vasectomy is regarded as mandatory. While others report large series of cases with a low incidence of epididymitis although vasectomy had not been done, in our own practice epididymitis was encountered once out of every three cases where the vasa were not cut. For this reason and because the complication is to be considered a major misfortune in an already enfeebled patient, we believe vasectomy is an essential routine measure.

II. INTRAVENOUS METHENAMINE

The use of this drug is likewise considered a valuable prophylactic measure. It must be given in adequate dosage, namely thirty-one grains of "uritone" twice a day from the day of operation until the temperature remains at normal for several days post-operatively. Although no statistics have been compiled we have the distinct impression its use lessens the occurrence of chills and prolonged septic temperatures.

III. SACRAL ANESTHESIA

Of paramount importance in operating on poor risks is the use of sacral block anesthesia in place of spinal or inhalation methods. The localized area anesthetized includes exactly that necessary for transurethral work, namely penis, urethra, prostate and bladder neck and its advantage as to safety, duration, stability of blood pressure, and lack of shock stand unchallenged. The reputed difficulties of technic of administration have been exaggerated. We use the method of Lundy with ease and success. It may be stated boldly that this type of block eliminates both the immediate and remote complications of the anesthetic.

CONCLUSIONS

In the preceding paragraphs the varied pathology of the poor risk has been described and some typical examples of resection in each group presented. Several general considerations remain for discussion.

In the first place these patients demand and are entitled to relief from their prostatic symptoms irrespective of the associated pathology. The physician's knowledge of the constant threat of a cerebral hemorrhage in a hypertensive does little to reconcile that individual to the discomfort of a distended bladder. Nor can we

neglect to recognize the unexpected mitigation of apparently unrelated symptoms often brought about by a well performed resection.

Secondly, the standards of success in the surgery of prostatics are somewhat different from those of general surgery. In most instances urologists are dealing with permanently damaged individuals whose life expectancy is short no matter what is done. The fact that a man may die of coronary occlusion a few months after a resection detracts nothing from the value of the operative relief he obtained.

In a sense all surgery is based on probabilities. Consciously or unconsciously we balance the chance of relief against the chance of a fatality. By lessening the latter fact transurethral prostatic resection brings a previously unknown comfort to many feeble prostatics.

Finally, unguarded enthusiasm must not blind us to the unpromising nature of any patient with chronic systemic disease. The absolute contra-indications of decompensation, inadequate renal function and intractable uro-sepsis must never be transgressed upon. Discerning judgment, bold decision, patient preparation must be linked with skillful technic to surmount the inherent handicap of the poor risk prostatic.

* * *

DISCUSSION

Dr. Callahan of Tulsa:

I think that Dr. Spence has given the idea that the control of urinary infection following prostatic resection is an easy thing. In my practice I have many patients who continue to have urinary infection and distress for months after their resection. I also consider that hemorrhage is a serious complication in any type of prostatic resection.

Dr. Henry S. Browne of Tulsa:

I, too, feel that the decompensated heart case is a bad risk, and also the renal case in which the nonprotein-nitrogen remains fixed at a high level is a poor risk. The cancer cases rarely need resectioning more than twice before they die. In my experience, infection of the urinary tract in these cases is being handled by the retention of the catheter. We do get many satisfactory results in the poor risk patient which contribute to his comfort and to his ability to recover from associated diseases.

Collapse Therapy in Pulmonary Tuberculosis*

FLOYD MOORMAN, M.D.
OKLAHOMA CITY

Carson, an English physician, was the first to propose artificial pneumothorax nearly a century ago. While observing consumptives who were under his care, he found that a few in whom spontaneous pneumothorax occurred, recovered from the disease. It was the result of these observations that prompted him to propose artificial pneumothorax.

Artificial pneumothorax was first introduced as a practical measure by Forlanini of Italy in 1894, and John B. Murphy in this country, independently, in 1898. In 1913, Dr. Cleaveland Floyd of Boston, gave the initial pneumothorax to the late Dr. E. L. Trudeau of Saranac Lake. Since then its use by physicians, specializing in tuberculosis, has become more and more general. Clive Riviere of England made the following statement: "No brighter ray of sunshine has come to illuminate the dark kingdom of disease than that introduced into the path of the consumptive through the discovery of artificial pneumothorax."

Artificial pneumothorax is the most valuable and most widely applicable method of inducing collapse of the lung.

This treatment is frequently unsuccessful due to the presence of pleural ad-

*Read before the Section on General Medicine, Annual Meeting Oklahoma State Medical Association, Enid, April 8, 1936.

hesions, although good results are sometimes obtained even though adhesions are present, provided they are of the string or small band type, that will stretch sufficiently to permit collapse of the diseased area. Due to the fact that obliterative pleurisy occurs so frequently in pulmonary tuberculosis, it is my opinion that better results would be obtained if artificial pneumothorax could be administered in the early stage of the disease. Hawes and Stone, in discussing artificial pneumothorax, make the following statement: "As a general rule, it is the patient in the early stages of tuberculosis who is most suitable for compression treatment. There is no doubt that by its means he will be restored to health and placed on a self-supporting basis much sooner than can possibly be expected under ordinary methods. Nature does her work in curing tuberculosis slowly, and by no means surely. Give nature a chance by all means, but do not delay too long before giving her help in what she is trying to do." After pneumothorax is established, it should be maintained for two or three years at least.

Indications: Artificial pneumothorax is restricted to cases with essentially unilateral disease, although comparatively few patients are subjected to the treatment who do not have any disease on the so-called good side. Frequently we see the disease in the contralateral lung clear up after collapse of the more diseased lung.

The indications may be listed as follows:

1. Hemoptysis, whether slight or severe, provided it is possible to determine from which lung the blood comes.
2. Chronic fibro-caseous tuberculosis with essential freedom from disease in the contralateral lung.
3. Caseous pneumonic types of tuberculosis.
5. Tuberculous spontaneous pneumothorax cases should be converted into a controlled artificial pneumothorax.
6. In tuberculous pleural effusions the fluid should be aspirated and replaced with air, and the pneumothorax maintained according to the underlying disease.

Simultaneous bilateral pneumothorax is indicated in some cases.

The contra-indications are cardiac and renal failure and emphysema.

When adhesions prevent satisfactory collapse, pneumolysis is indicated in selected cases.

Intrapleural pneumolysis was introduced by Jacobaeus of Sweden and Ralph and Ray Matson, in this country, in 1913. It now occupies an important position in the treatment of tuberculosis. Briefly, the operation consists of inserting two cannulae through the chest wall into the pleural cavity, one usually posteriorly, through which the thoracoscope is inserted, and the other anteriorly through which the cautery is inserted. Under direct vision through the thoracoscope, the cautery can be manipulated and the adhesions divided. Practice and skill is required in order to do this delicate operation successfully. Good stereoscopic x-ray films are imperative before doing this operation.

Phrenicotomy, or section of the phrenic nerve, was first suggested by Stuertz in 1911, in order to obtain paralysis of one-half of the diaphragm. He recommended the operation in cases of basal tuberculosis, but experience has shown that occasionally small thin-walled cavities may close, and areas of infiltration in the upper part of the lung heal following this operation. The results will depend upon the degree of elevation of the hemidiaphragm into the thorax. Some authors claim that accessory fibers join the phrenic in twenty-five or thirty per cent of the cases, therefore, when present, these accessory branches must be sectioned in order to obtain paralysis and elevation of the diaphragm. The phrenic nerve takes its origin usually from the fourth, and at times, from the third and fifth, or all three cervical roots. It may also receive fibers from the sixth, seventh and eighth, and even the first thoracic root.

When temporary paralysis of the hemidiaphragm is indicated, the phrenic nerve is merely crushed and accessory branches interrupted if present.

This operation is indicated in some cases when artificial pneumothorax is impossible, due to obliterative pleural adhesions.

Occasionally it is indicated in connection with artificial pneumothorax where diaphragmatic adhesions may prevent collapse of basal lesions. It may be indicated in some patients who are unable to take artificial pneumothorax, due to the length of time that the treatment should be maintained, and the expense. It is recommended by some when artificial pneumothorax is discontinued, and as a preliminary to thoracoplasty.

Paravertebral extrapleural thoracoplasty is the last resort in the treatment of pulmonary tuberculosis; in other words, it is indicated when all the other methods mentioned, are unsuccessful or impossible to attain. It may be partial or complete. Complete meaning resection of the entire first rib or the first three ribs as recommended by some, and parts of the remaining ribs except the twelfth. When complete it should be done in two or three stages, preferably three.

Extensive unilateral disease with marked fibrosis and cavitation, with the heart and trachea pulled toward the diseased side, the diaphragm drawn up, and the ribs close together, is the most satisfactory type for thoracoplasty.

The operation is sometimes indicated in tuberculous empyema which originates during artificial pneumothorax and cannot be cured by repeated aspirations. We have had two cases during the last year in which good results have been obtained following thoracoplasty.

—o—

The Use of X-Ray in the Diagnosis of Breast Lesions*

IRA H. LOCKWOOD, M.D.
KANSAS CITY, MO.

In 1913 Salomon published a monograph on local extension of malignant tumors of the mammary gland based on the anatomical, pathological and radiographic findings of sections of the breast after operation. We were unable to find another publication in the medical literature on radiography of the breast until 1929 when an article by Gyones, Gentil and Guedes appeared in the Spanish literature. Following this Warren, Fray, Ries, V. Paschetta, Romagnoli, Seabold and Vogel published the results of their work and drew some very interesting conclusions regarding the interpretations of the normal and pathological changes in the mammary gland.

On a properly executed roentgenogram of the breast it is important that the rays strike the breast in an exact transverse position, otherwise there will be superimposition of the roentgenographic image. In the flaccid or pendulous breast Seabold[17] has constructed a cradle that has proven satisfactory. In our work we have used a rectangular compression bag capable of being filled with air after it has been placed under the patient. The technique of the examination has been described in detail in previous reports; [11] [12] since then certain changes have seemed advisable. We are now using thirty-six inch distance, kilovoltage varying from fifty-five to seventy, one hundred ma. with an exposure of three-tenths to one second with the Potter-Bucky diaphragm. By using the above factors there is no distortion of the breast structure and the time is sufficiently short to eliminate movement. Several negatives using different exposures may be necessary to establish a clear concept and the value of serial study in the diagnosis of certain conditions cannot be overestimated.[7]

The roentgenogram of the normal breast shows four distinct anatomical zones of different densities:[8]

1. The cutaneous zone with confirmation of the nipple and skin margin in profile.
2. The adipose zone of varying degrees of thickness and showing the fibroglandular prolongations from the mammary mass to the skin.

*Read before the Section on Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, Enid, April 7, 1936.

3. The glandular zone with the structures appearing as a pyramid, limited at the back by the retro-glandular zone, with some irregularity of the anterior margin especially in the region of the nipple due to the formation of milk ducts.
4. The retro-glandular zone appearing as a smooth, narrow clear space separating the base of the breast from the pectoral muscles.

Pathological processes, either neoplastic or inflammatory, are shown on the roentgenogram by alterations in contour or changes in density of the anatomical zones of the breast. Through the courtesy of the late Dr. Wainwright, microscopical sections of the whole breast have been made showing alterations in contour and outline of the different zones of the breast and also the changes in density with a correlation of the microscopical and roentgenographic findings.

Two distinct histological patterns of the glandular zone have been described,[4] mazoplasia and cystiphorous desquamative epithelial hyperplasia. Mazoplasia is the term given to the type of desquamation of epithelial cells in the terminal ducts and their acini accompanied by hyperplasia of the pericanalicular and periacinous connective tissue and often with the formation of ducts and acini. On the roentgenogram this state is characterized by a frond-like appearance of the parenchyma with the converging striations forming a fine, indistinct band beneath the nipple and varying amount of non-opaque stroma between the mass of the gland and the derma.

Cystiphorous desquamative epithelial hyperplasia begins as a desquamative epithelial hyperplasia that ends in the formation of cysts; these breasts are often "shotty" to palpation and correspond to the state of chronic cystic mastitis. On the roentgenogram the fibro-glandular striations are marked, the parenchyma appears to fill all the available space to the derma and there is a broad, dense band beneath the nipple. It is in these breasts that both large and small cysts are found.

Between these two extremes are breasts showing characteristics of each type. Whether one accepts Cheatle's or Handley's[9] explanation of the histological changes accompanying these different states each presents a typical appearance on the roentgenogram.

After the menopause the roentgenogram shows varying degrees of atrophy of the glandular structure with an increase in the amount of non-opaque stroma and a reduction in the fibrous striations. This replacement is far more complete in mazoplasia than in chronic cystic mastitis. The irregularity of the glandular atrophy may lead to soft mottled shadows representing residual lactating acini[15] or senile parenchymatous hypertrophy.[3] The glandular atrophy permits greater density of the cystic lesion than the surrounding stroma.

SOLID BENIGN TUMORS

Solid benign tumors appear on the roentgenogram as circumscribed opaque areas often multiple with a dense periphery but no evidence of invasion of the adjacent tissue. There may be distortion by no interruption of the striations; there is no axillary extension and no evidence of cystiphorous changes.

FIBROSIS

The roentgen appearance of fibrosis of the breast is often not as confusing as the clinical. One sees on the negatives, except in the cases of local trauma,[5] many faint irregular masses of scar tissue involving both breasts with fine striations extending into the axilla, but no abnormalities in the contour of the anatomical zones.

CYSTS

Cysts are associated with the state of cystiphorous desquamative epithelial hyperplasia. The roentgen findings are characteristic; they appear as smooth, relatively clear areas in the parenchyma of the gland. If a cyst arises in a localized area of the cystiphorous state it may present the appearance of a faint solid tumor without the dense well defined outline.[13] A cyst containing fluid is relatively less dense than a solid tumor.[18]

PAPILLOMA

There are no characteristic roentgen findings to identify these microscopic lesions. The significance of a serohemorrhagic or a hemorrhagic discharge from the nipple is a moot point. Bloodgood[2] is of the opinion that it more often accom-

panies a benign rather than a malignant lesion. Deaver and McFarland[6] state that a bloody discharge in a majority of cases is due to papillary growths. Adair[1] says a dark, bloody discharge always means a duct carcinoma. The concensus of opinion seems to be that discharge from the nipple cannot be regarded as of great significance in differential diagnosis.[14] One finds on the roentgenogram evidence of cystiphorous desquamative epithelial hyperplasia; this, with the bleeding from the nipple warrants a presumptive diagnosis of papillomata in the absence of a mass or roentgenologically demonstrable tumor.

CARCINOMA

Malignant tumors of the breast infiltrate and destroy the neighboring tissue. They are without definite demarcation and characterized by proliferation. One sees alterations in contour and density of one or more anatomical zones. The tumor appears rather dense and irregular with interruption of the striations. The periphery may be feathery or more compact than the mass giving a false sense of encapsulation due to the compression of the surrounding tissue. Extension into the lymph nodes in the axilla appear as smooth, dense, opaque areas, while the inflammatory nodes are faint and irregular in outline.

INFLAMMATORY CARCINOMA

Inflammatory carcinoma of the breast presents such unusual manifestations that the clinician is often misled. The rate of growth is rapid and the tumor may involve the entire breast and be fatal in a few weeks time. Age trauma, or previous lactation apparently does not enter into the etiology. The roentgen examination in inflammatory carcinoma of the breast shows a homogeneous opacity over the area involved and only by increasing penetration are we able to show the breast structures with the increased fibrous tissue change, the definite tumor mass and marked thickening and infiltration of the skin with the underlying structures adherent to it.

It is possible to study radiographically the mammary gland. The technical factors of the examination are important. The value of the method is shown by the high percentage of diagnostic accuracy in the differentiation of benign from malignant lesions.[20] The identification of early carcinoma in the presence of chronic cystic mastitis before the menopause may be difficult, however, the majority of individuals who come for an examination with the history of a lump in the breast are encountered after the age of forty[10] when the involutional changes are such that the neoplastic characteristics are easily identified.

The limitations of this method are: The inability to recognize[14] microscopical areas of cancer; early malignant degeneration in benign tumors and early carcinoma associated with chronic cystic mastitis. Roentgenograms may establish the presence or absence of a mass often before the disease is clinically apparent; define its mammary or axillary extensions; reveal multiple tumors, which are not necessarily benign; call attention to the importance of distant secondary malignancy;[19] reveal both benign and neoplastic changes and a transition of a benign into a malignant lesion; depict those changes characteristic of the spread of carcinoma along the connective tissue septa. In many cases where the disease seemed to be confined to a single nodule, microscopical sections of the whole breast revealed the frequent presence of impalpable axillary glands and involvement of the lymph structures along the pectoral muscles. These changes, dangerous because of the cells, permeate along these septa, reach the more active lymph streams and are easily carried to distant parts. The roentgen examination offers a permanent record of the findings; is a means of serial study of the breast; has none of the physical limitations of transillumination and in those cases positive for carcinoma, the need for biopsy can be eliminated and is exceeded only by the microscopical examination of excised tissue and we believe will bring patients to operation at a stage when surgery can offer more than palliation in cancer of the breast.

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PRENATAL CARE*

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Statistics compiled from various parts of the country, among people of various walks of life, have shown that the doctor is called upon for prenatal care earlier among the richer classes than the poorer, earlier in the city than in the country. The small town in which I practice is no exception to this rule. Quite a few women have no doctor with them at the time of delivery; a very large number have no prenatal care whatsoever; still others have heard of prenatal care, have an examination made early in pregnancy and feel that it should do for the entire nine months. For these reasons, it is more necessary to give them a very definite plan, one that they themselves can follow by written rules, so that they may realize that prenatal care is something real and tangible.

The first office visit is usually one for which the patient has gone over her period, comes in hoping or fearing that she is pregnant. At that time she has, usually, no definite idea concerning prenatal care. At the first visit a pelvic examination is made to determine, if possible, if the woman is pregnant. She will usually be more patient and give a more accurate history if she knows definitely that she is pregnant. If so, a complete history is taken with particular attention being paid to the nature of previous pregnancies, if multipara; to the past menstrual history, especially the last and next last periods; to previous diseases of the heart, lungs, or kidneys, to accidents and operations and to the family history, especially concerning tuberculosis, kidney disease, insanity, and family history of obstetrical cases of multiple pregnancies and the like.

On the first visit also a detailed physical examination is made with particular attention given to possible foci of infection: the teeth, the tonsils, the cervix. Also, the heart, the lungs, and the blood pressure are examined, the pelvic measurements taken and recorded. A Wasserman is drawn. The patient is then instructed as to prenatal care and advised that she should have routine examinations throughout her pregnancy. She is given a printed list of rules by which she should be governed during her pregnancy. These are as follows:

1. Patient is to report to the doctor every three weeks during the first seven months of pregnancy and every ten days during the remaining time. Bring a four-ounce specimen of morning urine for examination.

*Read before a joint meeting of the Medical Societies of Bryan, Marshall and Carter Counties, June 1, 1936, at Madill, Oklahoma.

2. Any discomfort such as nausea, vomiting, swelling of the feet, hands or eyelids, headaches, dizziness or hemorrhage from any part of the body should be immediately reported.
3. Once a week measure the amount of urine passed in twenty-four hours. It should be three pints or more. Any marked reduction in the amount of urine passed should be reported.
4. The diet should be well balanced and the usual amount of food should be taken. Diet should include cooked cereals, fresh vegetables and fruits. Meat, fish, and eggs should be restricted to four ounces daily. Water, milk and buttermilk should be taken freely each day. No alcoholic drinks should be taken. During the last six weeks the diet, especially the fats and sweets, should be reduced.
5. The clothing must be comfortable and should hang from the shoulders. There should be no constriction around any part of the body.
6. The breasts should be kept free from pressure. They should be washed with soap and water daily, then warm olive oil applied.
7. A warm bath should be taken daily; the last three weeks no tub bath should be taken but instead a shower or sponge daily. Douches should not be taken unless ordered.
8. Sexual relations should be restricted during pregnancy and should be forbidden during the last six weeks of pregnancy.
9. Plenty of mild outdoor exercise such as walking should be taken, but never to the point of fatigue. Violent exercise such as golf, tennis, horseback riding and swimming should be avoided. Long automobile rides are undesirable.
10. Rub olive oil gently over the abdomen and upper thighs twice a week.
11. Bowels should move at least once daily.
12. When labor pains begin, or if the water breaks, or if there is a blood stained mucous discharge, notify the doctor at once.

These type written instructions are given each patient and she is advised to keep them and refer to them frequently. To all primapara, and to multipara who have not previously had prenatal care, these instructions are read, and any explanation necessary is made.

When the patient comes in every three weeks for her routine examination, an interval history is taken each time as to any symptoms of nausea, vomiting, frequency or burning on urination, vaginal discharge, scanty urination, swelling of the feet, ankles or face, dizziness or headaches. A urinalysis including a microscopic is made at each visit, the blood pressure is checked and the patient is weighed. A record of these is kept on a separate card along with the date of estimated confinement and the pelvic measurements, so that they may be quickly compared. The date that the patient first feels movement is also recorded on this card.

Should the patient have the common symptom of morning sickness, an effort is made early to control this as soon as possible in order that it may not progress into the more serious hyperemesis. Good elimination through the bowels and kidneys is stressed and the patient is given a mild gastric sedative. If the patient can have coffee and toast in the morning one hour before arising, she will be free from the symptoms during the day. Small frequent meals every three or four hours, high in carbohydrate content with restricted fats and proteins often control the symptom. The woman should have a room to herself and coitus should be forbidden.

Should vomiting persist, a speculum examination is made. If there is a displacement of the uterus, the knee chest position is advised. If there is an erosion of the cervix, ten per cent silver nitrate is applied until the tissues are white. This treatment is repeated every third day and often controls the vomiting entirely. Even though the cervix appears entirely healthy, the silver nitrate treatment often proves beneficial.

The use of theelin and other glandular preparations is highly recommended, but have been no help to me so far.

When vomiting is of such a degree that nothing may be taken by mouth, that

bromides by rectum are required in repeated large doses, and intravenous glucose is necessary, the dangerous and pathological hyperemesis gravidarum is present, the treatment of which will not be taken up in this paper.

About the middle of the pregnancy and again shortly before the date of confinement, examination of the heart and lungs is made and the condition of the teeth, which so often are affected, is ascertained. About the middle of pregnancy also, I give the patient a list of clothing a baby should have to be healthily dressed; also, if the delivery is to be made at home, a list of articles needed for the delivery and immediate care of the mother and child.

Toward the end of pregnancy, the pelvic measurements are again taken in the doubtful cases, for the pelvis often enlarges during pregnancy. At that time also the position of the child is determined, in order that the woman may not go into labor with an abnormal presentation.

With the proper prenatal care practiced, the mortality rate of both the mother and child should be greatly reduced, and the pregnancy made a more pleasant experience.

CROSSED EYES*

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Crossed eyes are the most neglected of all cases in the field of ophthalmology. There is no excuse today for a person remaining cross eyed. Oscar Wilkinson states that "a child who is cross eyed after the age of five years has been neglected." Most squints are more than six years old when they are presented to the ophthalmologist. This seems to be due to the lack of education. The treatment of squint has made considerable progress in recent years, but dissemination of that knowledge has apparently been slow and ineffective. The treatment is twofold, aiming at preservation of or restoration of normal binocular single vision and correction of the deformity.

Crossed eyes most commonly develop between the ages of two and five years. As soon as this is noticed the child should be placed in the care of an ophthalmologist, as the squint in its incipiency can often be cured by non-operative methods. If non-operative methods fail, the eyes should be placed in approximate parallelism early. The correction of squint is like the cure of cancer; success depends on starting early.

The management of these young squinters often taxes severely the doctor's tact, patience and perseverance. Their early age and the complexity of squint makes a difficult problem.

Squint has been with us since history began. Prior to the early part of the eighteenth century, the treatment of squint was of no more avail than that recommended by Hippocrates, Galen and Celsus. In 1727 John Taylor, an itinerant oculist of Norwich, England, introduced his operation for crossed eyes. He traveled through Europe and is reputed to have cured squint by cutting the conjunctiva at the inner canthus and covering the good eye to cause the use of the squinting one. It seems that he did not confide in his contemporaries and has left no record of exactly what he did.

In 1743 Buffon recommended covering the good eye to force the use of the squinting one, and thus improve its vision and aid in the cure of the squint. He also recommended glasses in certain conditions.

The first definite surgical effort in the treatment of squint was made in the first third of the nineteenth century. In 1816 Delpech divided the tendon of Achilles for the correction of club foot. In 1827 An-

*Read before the Eye, Ear, Nose and Throat Section, Annual Meeting, Oklahoma State Medical Association, Enid, April 8, 1936.

thony White suggested the cure of squint by means of tenotomy, and this was done on the cadaver by Stromeyer in 1836. The first authentic tenotomy for the relief of squint was performed by Dieffenbach of Berlin in 1839. Many tenotomies followed, but many resulted in such glaring deformities, as, external deviations, sunken caruncles and exophthalmos that the operation came into bad repute.

Von Graefe refined Dieffenbach's operation and his method is still used by some men, but defects of tenotomy led to attempts to strengthen weaker muscles. This was first tried by Dieffenbach in 1842 to relieve an external deviation produced by a myotomy done by himself. However, this was not a success.

Guerin in 1849 gave a more practical procedure and Von Graffe in 1857 with his famous "Faden operation" gave us a more accurate description of an advancement. The same year G. Critchett described his three-stitch operation, of which Beard has said, "This might be called parent of most modern advancement operations." In 1897 Landolt made some improvements on Critchett's advancement. Almost every advancement operation since has been more or less a modification of Critchett's or Landolt's. From this date up to the present time there have been devised many ingenious methods of shortening the weaker muscle and making it cope with the over acting one, and this has been done by muscular advancement, capsular advancements, resections, reefs and by tucks. Then came the combination of operations, the partial tenotomy and advancement. In all of these was the element of inexactness which prevented ophthalmologists from operating on children at an early age before the vicious habits were formed and before it was too late to secure the aid of nature in procuring that all important function, binocular single vision, or fusion of the two images, to aid in obtaining and maintaining straight eyes.

I shall speak only of non-paralytic or concomitant squint which is a functional disturbance.

DEFINITION

It is the condition in which only one eye is straight at a time, the other deviating when both eyes are open. In it the eyes maintain the same faulty relationship of axes in every direction in which they are turned. In other words, the deviating eye accompanies the fixing eye, maintaining approximately the same angle of deviation in all directions of gaze. The power of the different muscles of the two eyes is usually normal. The eye which is directed toward the object looked at, is known as the fixing eye, the other as the squinting eye. The degree or angle of squint represents the deviation of both eyes manifested by the non-fixing eye.

As to etiology of squint we have had since the beginning of the nineteenth century three theories, namely; the muscular theory, the accommodation theory and the fusion theory. Recently Wilkinson introduced, but does not claim originality for, the nervous theory. All have ardent advocates and all have elements of truth. Some cases seem to support all four.

1. The muscular theory attributes the defect to an over acting muscle.
2. The accommodation theory of Donders claims that squint is produced by disturbance of the relation of convergence and accommodation due to hypermetropia (far sight) or to hypermetropia and astigmatism.
3. The fusion theory or Worth's theory ascribes squint to a lack of proper development of the fusion faculty. This faculty, which we think exists, presides over fusion which demands such adjustment of the two maculae that the image of an object seen will fall on the macula of each eye. These two images, slightly dissimilar, in turn, are sent to the cortical center of vision which blends or fuses them and only one object is seen. This faculty in the average normal child is fairly well established at the end of the first year, and it is thought to reach its development normally by the end of the sixth year.
4. Nervous theory includes pathologic nervous lesions, and functional nervous manifestations.

A certain number of squint cases follow paresis or paralytic lesions which occur early in life and leave no trace. These squints occur early and are associated with marked amblyopia. Duane classfied a cer-

tain number of these under congenital squint.

All children with concomitant squint show some general nervous instability.

Contributing causes of squint include:

Hypermetropia (far sight).

Heterophoria.

Anisometropia.

Amblyopia.

Structure and shape of the orbit and eyeball.

Declination.

Acute illness.

Injury at birth.

Heredity.

Miscellaneous causes.

Edward Jackson states that "the causes of squint include: Imperfect development of the coordinating mechanism of binocular vision. Interference with coordination by abnormal accommodation, excessive or deficient (hyperopia or myopia) reversion to the monocular vision type with diverging visual axes. Paralysis and paresis of the extra-ocular muscles, or mechanical interference with them. Worth's fusion theory is useful, but few cases are relieved by the use of fusion training without other measures."

In the treatment of squint we attempt to remove interference, and cultivate binocular single vision. It is divided into non-operative and operative.

Non-operative treatment consists of four subjects:

1. Constitutional.
2. Optical correction.
3. Visual training.
4. Training of binocular vision, or the fusion faculty.

Constitutional: When we review the many factors contributing to squint we must admit that concomitant squint is not alone a manifestation of an ocular condition. The squinting child is usually below par physically and neurologically and our first duty is to call in consultation the proper expert and place our patient in the best possible physical condition.

Optical correction: The child's refraction should be most carefully done objectively by means of retinoscopy after complete cycloplegia with atropine. The entire future of the case may depend upon securing an accurate refraction. Then glasses should be ordered which correct all, except 0.25 diopter, of the full hyperopia and all of the astigmatism. Glasses can usually be ordered as early as two years of age, but this depends on the child.

Visual training: This is to prevent deterioration of or to improve visual acuity in the deviating eye. It is accomplished by means of some appliance to inhibit the use of the good eye and thus force the use of the squinting eye, or by the use of atropine in the good eye to so blur its image that the use of the deviating will be preferred. These methods of visual training are not necessary in alternating squint. Where central fixation is lost, use a bandage on the good eye constantly for three or six weeks. Often this produces a very definite fixation and improvement in visual acuity. If at the end of six weeks central fixation has not been secured, and there has been no improvement in visual acuity it is of little benefit to continue longer and we can expect only a cosmetic result.

Training of binocular vision or fusion: Wilkinson states that "no set of eyes can be put straight and kept straight without binocular vision or fusion." This faculty, innate in man, is the one essential in curing squint. Therefore, it is important to determine its presence, its degree, and adopt methods to increase its amplitude. Worth has given us three grades of binocular vision: First, simultaneous macular perception is the ability to recognize objects perceived by each macula simultaneously. There is no particular desire for binocular vision. The fusion power is of the lowest grade, and any contributing cause may upset binocular vision and cause squint.

Second grade comprises those who have fusion with some amplitude.

Third grade is what Worth calls the "sense of perspective." Each eye sees an object at a different viewpoint from the other, but these images are so blended that we are cognizant of but one mental impression. This sense of perspective enables

us to determine depth and fullness of objects and it cannot be obtained with the use of one eye only. Worth has said that "with a strong fusion faculty and good vision in each eye nothing but a paralysis of the ocular muscles could cause squint, and that produces an intolerable diplopia."

In training binocular vision we resort to some form of the stereoscope for orthoptic treatment. This is done after we have used atropine, glasses and the eye pad.

Orthoptic treatment is tedious and requires much patience and imagination. Some cases are corrected by glasses alone, others by glasses and orthoptic exercises, but many require surgery.

When we are convinced that orthoptic treatment will not straighten the eyes we operate to put the eyes in approximate parallelism, and continue orthopic treatment. In the average case we plan to use non-operative treatment for about six months before operation.

Before operation squint cases must be studied carefully. A good plan to follow is Duane's method.

Most convergent squints develop out of a simple convergence-excess to which is added a divergence-insufficiency. I use a recession operation after the method of Agatston, making one millimeter of recession of medial rectus for each five degrees arc of squint. If that is not sufficient I use a resection of lateral rectus after the method of Reese allowing one millimeter for approximately two degrees arc of squint. If further correction is necessary I use a recession operation on the opposite medial rectus. Either eye may be operated upon but the patient always selects the non-fixing eye.

The degree of squint may vary from day to day or hour to hour, therefore, I advise my patient that more than one operative setting may be required.

In conclusion I wish to emphasize that crossed eyes should be straightened early to take advantage of nature's optimum period for development of binocular vision. They occur in those with general nervous instability, and if not corrected a serious inferiority complex surely develops.

* * *

DISCUSSION

Dr. C. B. Barker:

Doctor Reed has covered the subject very thoroughly. I wish to stress just a few of the points on diagnosis and treatment.

Most of us older doctors have certain procedures which we have tried out with more or less favorable results, and the following is what has given me best results. The diagnosis of the phorias is made by lenses, prisms and cover tests. The tropias, anybody can see that an eye squints.

The first thing is to correct all errors of refraction, and I prefer to start treatment as soon as the patient presents himself. Strong plus lenses will be worn comfortably at one year of age.

I am taking it for granted that all non-surgical treatment has been tried. The next step is to measure the strength of individual muscles and get the ratio between it and its opponent. This is done with prisms, perimeter and the position of the cornea, or pupillary margin in relation to some fixed point on the lid, as the punctum and the external angle.

Now, when we have found whether we are dealing with a convergence excess or a divergence insufficiency or both, we are able to attack the muscles with some degree of certainty. How do we determine an excess or insufficiency? Convergence excess has greater deviation for close, as compared with distance.

Our surgical treatment should consist of strengthening the weak muscles and weakening the over active muscles. We prefer to operate before the age of six or eight years of age.

In eso-tropia of high degrees, as forty degrees or more, I do a resection and advancement, with a recession, on the poor eye. In the low degrees and in young children, I prefer a tucking and a recession.

EYE MALINGERERS

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Malingering is the act of feigning or perpetuating an illness or injury, either subjective, objective or both, intended to deceive, with the object of gaining sympathy, to escape duty or obtain money.

Malingerers are a menace to industry and for the most part represent the drones of society. Weakness of human character is responsible for its existence, encouraged to a certain extent by the laws which provide no punishment for the attempted fraud.

Malingering in one of its many forms may be met with in public hospitals, asylums, jails, in military and more especially in the industrial accident and health insurance, and may be resorted to in suits for personal bodily injuries and by those on trial for crime.

The malingerer should be recognized because he is a drain on the army pension systems, public institutions, private charities and insurance companies. The doctor always sees the case of a malingerer at some stage and the fraud can often be detected or perpetuated with his acquiescence.

I wish to point out in this paper that malingering is of sufficient frequency and importance to require serious attention and particularly that in almost every case of malingering, some doctor, either consciously or unconsciously aids, abets or encourages the imposter.

We do not limit malingering to an out and out fraud in the mentally sound, as regards disease or disability, with neither organic or functional basis but include in the terms a less frank fraud, such as exaggeration or prolongation of illness or injury or false imputation as to cause.

In cases where malingering develops after recovery, the motive is either to get compensation for pre-existing pathological change due to some disease or accident, or to get compensation when no permanent damage has resulted from accident. This is called simulation. The injured may also claim that the damage done to an eye by traumatism is of greater extent and severity than is really the case. This is designated as exaggeration. This may involve only one eye but it is not uncommon to find a patient claiming that an injury to one eye has injured the other through sympathy, with a resultant loss of vision.

It is very exceptional to find a claim for total blindness in both eyes as it would be too inconvenient and difficult to simulate. The general demeanor of the claimant, reaction of the pupils to light and the convergence on the prism test would eliminate a total blindness.

The malingerer exaggerates his attempts at vision in order to impress the observer that his case is genuine. He will gaze and stare, turn his head from side to side, lean from the chair in order to convince the examiner that he is making every effort to see, then declare his inability to do so. His answers to questions are clearly prepared before hand and are inconsistent and variable. When asked to read the letters on the Snellen's type, he will sway from side to side and refuse to see the small letters, and as we get to the large type and insist that he try to call a part of the letters, he will probably make a stab at one letter and usually call it an "I," which to my mind is almost an admission of malingering. The letter "I" does not appear on any test type as it does not subtend an angle of five minutes, except in the vertical. His general demeanor is suspicious, he sometimes assumes a boisterous manner, bordering on the aggressive for the benefit of the examiner.

To outwit cases of this type is our task, and any display of hostility or lack of patience will usually greatly impede our progress in proving the deception. We had better attempt to meet deception with deception by pretending to believe in his

incapacity and show a sympathy with his condition.

When a claimant presents himself for examination of his eyes for an alleged injury or loss of vision, it is well to get a complete history of his condition prior to the injury, the injury and his condition immediately following and up to the time of the examination. Of especial importance are his statements as to his complaints which are often inconsistent and follow about the same in all cases, that is: eyes pain, has headaches, vision blurs when he attempts to read, light is painful, eyes water and he cannot see as well as before the injury. From the nature of the purported injury, his complaints and general demeanor, we have a fair idea as to what we may expect upon subjective tests.

After the claimant's history has been recorded for what it may be worth, external examination of the eyes and lids should be made with the condensed light and the binocular magnifying loupe; the presence or absence of scars and wounds is noted, especially as to whether or not they could have been caused in the manner stated. It is especially important to distinguish old scars of the cornea which must have been present before the injury, from fresh scars or abrasions which could have been made at the time stated. In other words, we attempt to find sufficient evidence of the injury to account for the disability claimed.

It must be remembered that it is very easy to differentiate between old pathological changes and those due to a recent injury; that it is difficult and often impossible to do so several months later. It is not difficult to differentiate between scars from lime or acid burns and those of trachoma, but it is impossible to state whether the burns are one, two or a dozen years old.

The question of the freshness of such evidence is often not easy to decide, and here the slit lamp or corneal microscope gives information which may be of the greatest value. This instrument throws a fine beam of light through the transparent parts of the eye, so that with it we may exactly locate the level of any lesions, determine whether an injury has penetrated the cornea or not, the presence or absence of cells around an opacity of the cornea (which if present would indicate a relatively fresh lesion). With this instrument we are able to see the fine deposits of iron oxide which collect in eyes that contain a piece of steel. Thus, even if the steel has been absorbed or if the x-ray picture leaves us in doubt as to whether the steel is in the eye or just outside, we can find reliable evidence as to where it has been, with the corneal microscope.

After a careful objective examination, we fail to find evidence of injury, pathological or structural change, and note that the media are clear, the fundi, tension, tunics, reflexes and muscular balances are normal, we proceed with the subjective tests as to manifest visual acuity.

We next note with the keratometer, the corneal curvatures and what amount of corneal astigmatism may be present, if any, and at what axis. With the retinoscope, we note if there is any appreciable amount of either hyperopia or myopia.

Upon subjective or visual acuity tests, we first have claimant to read, with both eyes open, the ordinary Snellen's type, at twenty feet, beginning with the 20/15 line and going up to the line he calls correctly, or beginning with the 20/200 line and going down. This is noted as his manifest binocular. Then covering first one eye and then the other, with the same procedure we note his manifest in each eye separately. Then we attempt to refract along the lines suggested by the keratometer and retinoscope to the point of best vision. This will give his manifest visual acuity on open test.

After completing the objective examination and recording the manifest visual acuity in each eye, we proceed with the different malingering tests, the most common being fogging, the cross cylinders and the prism.

In the foregoing test, we place over each eye a plus lens of sufficient strength that the claimant is unable to see the 20/200 line, gradually reducing until we obtain the correction which he admits as his best vision. (This with both eyes open.) If he admits a normal vision in one eye, we again fog with a strong lens, having the patient close both eyes, neutralizing the lens over the eye with the least amount

of vision, keeping the better eye overcorrected and having him open both eyes, after a short period of rest, with the smallest type he was able to read with both eyes open, we have him read the line backwards. This he will often do if he thinks he is reading with both eyes. If unsuccessful with this, we try to cross cylinders over each eye, with both eyes open, gradually revolving the one over the bad eye until it is neutralized.

Another method is to have the claimant advance to the type from the twenty feet, until he is able to read a certain line, say the 20/20. If he is able to call the letters at ten feet, we would record this as 10/20 or the equivalent of 20/40 Snellen's and so on up to within one foot, using the distance at which it was correctly called as the numerator, the number type as the denominator and transposing to the Snellen's equivalent.

The prism test often works very satisfactorily. In this we place a prism, base down, over the good eye, splitting the pupil with the edge of the prism, and with his bad eye covered, have him read the two lines seen with the one eye, monocular diplopia. Then uncover the bad eye and slipping the prism up which continues the diplopia but in this case being binocular, have him read both lines, one forwards and the other backwards, noting the ability to read the line seen with the bad eye which would be the lower line.

Another test we often use is the combination of the pin hole disc over the good eye and the stenoptic slit (with slit placed vertical) over the bad, having the correct position for binocular vision. Then elevating the chin slightly or enough to obstruct the view through the pin hole disc, continue the vision through the slit. It is necessary to explain that both eyes are to be kept open at all times for these examinations and to see that this is done, have claimant's face sufficiently illuminated and be in front, watching him at all times to see that he does not close either eye while the test is being made. He may become confused as to which eye he is seeing with and attempt to close first one and then the other. This, we must be ready to detect and immediately step into his line of vision, insisting that he do as he has been instructed by keeping both eyes open, making some explanation as to why it is necessary.

The chromatic or color test we sometimes use is the alternate red and blue letters, read through a blue and red lens, placed before the eyes in the trial cell. The claimant will read the red letters from one eye and the blue from the other.

We sometimes find evidence that a claimant has been coached on the ordinary Snellen's type. He will only admit certain letters, the same with either eye, refusing to see anything with the lenses or even the trial cell placed before his eyes, admitting only the letters he has been coached to call.

The above malingering tests are the methods commonly used to detect malingering and in addition to the detection we can estimate the percentage loss as this is very necessary in claim cases. There are many other methods of detecting the malingerer, especially those that simulate a total blindness, but as it is necessary in most cases to estimate the visual loss, we will not attempt to describe the other methods used for this purpose.

This being such a broad subject, we have not attempted to take up a discussion of the visual field, extrinsic muscular imbalances, efficiency losses or subjective complaints, most awards being based on the visual acuity.

The fact that no objective findings can be discovered to explain the subjective symptoms of which he complains, and that the usual treatment for such conditions is of no benefit, in fact the patient will often claim they are getting worse, will suggest malingering.

Objective symptoms of irritation and inflammation of the conjunctiva are often produced by artificial means to deceive the physician or examiner, either by vigorously rubbing the eyes just before examination, by introducing into the lower conjunctival sac, various substances. Among some of the things commonly used are cement, cigarette ashes, powdered tobacco, soap, pepper, salt, match heads; red ink or mercurochrome solutions often

being used, thinking it will appear as a bloody discharge.

This artificial conjunctivitis is sometimes quite severe. It is however, easily recognized by the fact that it is confined to the lower cul-de-sac and lower half of the bulbar conjunctiva, the upper half and the upper fornix being free from irritation. In most cases of this character the discharge does not conform to the severity of the reaction. I have seen cases with a rather violent conjunctival injection, limited to the lower fornix and lower bulbar conjunctiva with a circumscribed epithelial eschar about the lower center of both fornices, about one-sixteenth inch in diameter.

A point of importance is that such inflammation quickly disappears if the claimant is confined in a hospital, his belongings locked away and his eyes kept bandaged. A real conjunctivitis will be made worse under bandage.

Not infrequently artificial mydriasis is produced with atropine, either in one eye or both. We usually suspect this from a paralysis of the accommodation and the non-reaction of the pupil to light. Such cases being admitted to a hospital and their clothes taken away, will at the end of a week or ten days reveal the deception.

It is incumbent upon us as ophthalmologists, to make a very careful examination of all eye injuries at the time of the injury, making note of any pre-existing pathological or structural change in or about the eyes, estimating the visual acuity of each. For at this time most claimants do not think of malingering and will give a truthful account as to the condition of each eye prior to the injury. If any manifest reduction of visual acuity is recorded, they should be refracted to note any refractive errors and to note the acuity with correction. If there is any discrepancy between the visual acuity and the change due to the traumatism, it should be noted. This data will be of inestimable value later in detecting malingering where a patient files a claim for injury or compensation.

After an eye injury such persons have a peculiar advantage, since all our tests of vision are subjective and based on his statements of what he sees. An encounter with a representative of this type may prove a battle of wits in which his native cunning will make it seem that our years of special training were passed in a kindergarten.

Painting the Orange

Today the orange is universally recognized as a rich source of vitamin C and therefore a desirable fruit for children. The natural color and other characteristics of the rind vary with different varieties and with the season. Once these features served to some extent as marks of identification. This is not true today, when there is current a tendency to "improve on nature." The inherent color of the rind of certain varieties of the orange is not an index of maturity of the fruit or of the degree of sweetness of the juice. Green pigment persists in the skin of mature fruit of high quality. Many growers apparently believe that the presence of chlorophyll in the pericarp impairs the marketability of the fruit. Several years ago the practice of exposing oranges to ethylene gas for from two to four days was introduced. The ethylene causes a blanching of the green color and a consequent unmasking of the yellow pigments also present in the skin. The United States Department of Agriculture has ruled that this process does not in itself constitute adulteration, and there is evidence that the nutritional value of the juice is not affected by it. More recently a rapid method of coloring has been employed. The fruit is dipped in a solution of a harmless coal tar dye, which gives to the resulting "painted oranges" a more uniform, brilliant color. Food laws require that the presence of dyes must be declared by having the phrase "color added" stamped on each orange. The staining of unripe or damaged fruit by any method in simulation of oranges of greater maturity or of superior quality constitutes adulteration under the Food and Drugs Act. The degree of maturity of the orange is determined by chemical analysis of the amount of sugar and citric acid in the juice. Unless there are eight parts of sugar to each part of the acid, the fruit is held to be unripe and inferior. The state of Florida has recently provided rigid regulation of the packaging and marketing of citrus fruit according to more exacting standards than those required by the federal government. The United States Department of Agriculture accordingly has agreed to wait until September, 1937, before action will be taken. Thereafter interstate shipments of inferior oranges that have been colored will be liable to seizure and destruction. The Florida regulations in large measure should serve to remove the necessity for federal action. Accurate information concerning the effect of the artificial coloring of oranges on the consumption of the fruit is not available. The phrase "color added" stamped on each stained orange has certainly puzzled alert housewives, many of whom under the direction of their family physician are buying oranges for the baby. Consumers have questioned whether the colored oranges are of high quality. They have tasted the juice warily and have inquired whether the viamin content is as high as in the uncolored fruit. Some consumers have expressed the opinion that colored oranges do not keep as well as the untreated russet colored fruit. Others have asked whether the "painted" rind is suitable for making marmalade and candied orange peel. These questions are evidence of intelligent interest on the part of the public. The promulgators of the coloring of oranges should arrange to answer them decisively by scientific evidence.—Journal A. M. A., December 26, 1936.

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McAlester, Oklahoma

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Failure to receive The Journal should call for immediate notification of the Editor, McAlester Clinic, McAlester, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes of addresses, births, deaths and weddings will be gratefully received.

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EDITORIAL

VENEREAL CONTROL

The program for venereal disease control which is under the direction of our State Health Commissioner, is receiving the attention of both the laity and medical profession. Many lay organizations are having speakers before them acquainting them with the plan and purposes of the campaign. There is no question but what this program is receiving practically the unanimous endorsement of the doctors of the state, but it is very important that the operation of this plan should be kept in the hands of the organized medical profession and not allowed to be operated by the laity or cults.

The State Health Commissioner will, I am sure, present this program to each County Medical Society and ask them to set up the machinery to put the plan in operation, and when this is done it is important that each County Medical Society have a complete program outlined in order to immediately take over the work. It seems that it would not be best to establish free clinics.

The patients will fall into three groups—the indigent, those in the low wage scale, and those able to pay the usual fee, and we must be prepared to give service to all three groups. The indigent case will, of course, have to be cared for at the expense of the state; the low wage earner should be able to receive the necessary service at a fee in proportion to his income, and they should also have the opportunity to select the physician of their choice.

The problem will, of course, be different in different localities. Where there is a full-time health unit with a medical director, the indigent cases can probably be cared for by this unit. But where there is no full time health unit some other arrangement, under state assistance, will have to be made.

We think there are two things to be avoided—one is the free clinic and the other is the establishment of a fee schedule. The fee schedule will not be practical as those in the low wage scale should pay in proportion to their income and economic responsibilities.

After considering the foregoing we would appeal to give to the State Health Commissioner hearty cooperation in this program, being careful, however, to protect yourselves from the evils of the free clinic or fee schedule.

DANGEROUS RESOLUTION

It might be well for the physicians of Oklahoma to interest themselves in House Resolution Number 4650 to amend the United States Employees' Compensation Act in which every osteopath in the United States will be authorized to treat injured and sick employees of the Federal Government.

The bill at this time is before the Committee on the Judiciary and a member of

that committee is our Representative, the Honorable R. P. Hill. Pressure is being brought to bear, it is understood, for an early and favorable report and you will do well to interest yourselves sufficiently to communicate with your Congressman and Senator relative to this matter and let him know in no uncertain terms that you are opposed to any legislation that will allow this work to fall into the hands of any cult. Federal employees are entitled to scientific service and this will be most decidedly interfered with if the above mentioned resolution is adopted.

EXHIBITS AT ANNUAL MEETING

Doctors who wish to reserve space for exhibits at the Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 10, 11 and 12, should write immediately to E. Rankin Denny, M.D., Chairman of the Committee on Scientific Exhibits, Medical Arts Building, Tulsa, Oklahoma.

OBITUARIES

DOCTOR CHARLES T. HARRIS

Dr. Charles T. Harris was born in Alabama on February 17th, 1870. He graduated from the University of Tennessee Medical College in 1901, and located in Kiowa, Oklahoma, in 1911, where he practiced until his death in a McAlester hospital on February 7, 1937, after an illness of ten days. His entire practice was in Oklahoma.

Dr. Harris is survived by his wife, Mrs. Lillie Harris, of Kiowa, and five children, Mrs. Bertha Jones, Ramona, Cal.; Jess Harris, Los Angeles, Cal.; Dr. Trester S. Harris, Los Angeles, Cal.; Miss Leona Harris, Los Angeles, Cal.; and Dr. C. Preston Harris, Kiowa, Okla.

Three brothers and four sisters also survive. They are Dr. E. M. Harris, Cushing, Okla.; Dr. J. M. Harris, Wilburton, Okla.; L. B. Harris, Ocean Park, Washington; Mrs. Cona King, Hamlin, Texas; Mrs. Lela Pyeatt, Hamlin, Texas; Mrs. Lora Curtis, Abilene, Texas; and Mrs. Panola Curtis, Dallas, Texas.

Dr. Harris was prominent in the civic and professional circles in Pittsburg County and southeastern Oklahoma. He was a member of the Kiowa Blue Lodge, A. F. & A. M., and the Scottish Rite Bodies at McAlester. He also held membership in the County, State, Southern and American Medical Associations.

Funeral services were held at Kiowa on February 9, Dr. Samuel R. Braden, pastor of the First Presbyterian Church of McAlester, officiating.

LEGISLATIVE FUND

County	Allotment	Amt. Paid
Adair	$ 40.00	
Alfalfa	70.00	
Atoka-Coal	30.00	$ 30.00
Beckham	140.00	130.00
Blaine	90.00	
Bryan	240.00	170.00
Caddo	240.00	90.00
Canadian	230.00	75.00
Carter	260.00	130.00
Cherokee	30.00	
Choctaw	70.00	60.00
Cleveland	270.00	
Comanche	190.00	
Cotton	90.00	
Craig	150.00	80.00
Creek	330.00	190.00
Custer	230.00	210.00
Garfield	420.00	250.00
Garvin	150.00	150.00
Grady	230.00	160.00
Grant	40.00	
Greer	110.00	
Harmon	80.00	15.00
Haskell	60.00	40.00
Hughes	170.00	140.00
Jackson	160.00	120.00
Jefferson	110.00	
Johnston	10.00	
Kay	320.00	290.00
Kingfisher	90.00	
Kiowa	170.00	
Latimer	40.00	
LeFlore	160.00	100.00
Lincoln	150.00	50.00
Logan	200.00	100.00
Major	30.00	
Marshall	50.00	
Mayes	110.00	10.00
McClain	60.00	
McCurtain	70.00	
McIntosh	60.00	60.00
Murray	110.00	
Muskogee	520.00	100.00
Noble	40.00	
Nowata	50.00	50.00
Okfuskee	150.00	100.00
Oklahoma	2740.00	1115.00
Okmulgee	280.00	210.00
Osage	220.00	220.00
Ottawa	310.00	90.00
Pawnee	100.00	90.00
Payne	250.00	160.00
Pittsburg	350.00	200.00
Pontotoc	300.00	300.00
Pottawatomie	330.00	160.00
Pushmataha	75.00	40.00
Rogers	120.00	80.00
Seminole	320.00	110.00
Sequoyah	10.00	10.00
Stephens	220.00	80.00
Texas	50.00	20.00
Tillman	100.00	110.00
Tulsa	1980.00	1200.00
Wagoner	40.00	40.00
Washington	250.00	240.00
Washita	120.00	
Woods	170.00	140.00
Woodward	260.00	150.00

NOTE—Corrections and additions to the above list will be appreciated.

Editorial Notes—Personal and General

DR. and MRS. W. ALBERT COOK Tulsa, spent February in Southern Texas and points in Mexico.

DR. ALLEN R. RUSSELL, McAlester, spent the latter part of February with Dr. John R. Caulk, St. Louis, doing special urological work.

DR. R. M. ADAMS announces the removal of his office from Hobart to 325 West 24th Street, Oklahoma City.

DR. JESS BIRD announces the removal of his office from Altus to 1545 N. W. 44th Street Oklahoma City.

DR. R. KEYES announces the removal of his office from Okemah to Wewoka.

DR. WILLIAM K. ISHMAEL announces his association with the McBride Clinic and Reconstruction Hospital, Oklahoma City. Dr. Ishmael is the Director of the Section on Internal Medicine, Arthritis and Rheumatic Diseases.

News of the County Medical Societies

HARMON County Medical Society met February 1st and elected Drs. Wm. G. Husband, president, and Russell H. Lynch, secretary. Both are of Hollis.

Drinker Respirator for Morningside Hospital

Morningside Hospital, Tulsa, was the recipient, February 8th, of a Drinker respirator, commonly known as an "iron lung." The instrument was a gift from Joe Carson Post, American Legion, and cost the local post $1,400.00.

Tulsa now has two Drinker respirators, the first one a recent gift to St. John's Hospital. The Legion committee making the presentation to Morningside Hospital was headed by Robert Epstein; Dr. A. Ray Wiley of Tulsa was chairman of the doctor's committee.

These Drinker respirators are the only ones in Oklahoma at this date.

Association of Military Surgeons Appoints

The Association of Military Surgeons of the United States announces the appointment of Mr. Robert Lewin as director of its convention exhibits.

Mr. Lewin has very successfully directed the commercial exhibits of the American Association of Railway Surgeons and the American Association of Orthopaedic Surgeons for a number of years. This year he is also directing the commercial exhibit held in conjunction with the International Fever Therapy Conference at the Waldorf-Astoria, March 29, 30 and 31, 1937.

The commercial exhibits of the Association of Military Surgeons have been creating more attention each year and the exhibitors have found this to be a highly profitable meeting.

Anyone desiring information in connection with the Military Surgeons 1937 convention to be held at Los Angeles, October 14 to 16, the American Association of Orthopaedic Surgeons to be held at the Biltmore hotel, Los Angeles, January 15 to 19, the American Association of Railway Surgeons meeting to be held September 21 and 22 at the Palmer House in Chicago, or the International Fever Therapy Conference, as above mentioned, should address Mr. Robert Lewin, 505 North Michigan Avenue, Chicago, Ill.

Protamine Zinc Insulin Squibb

Physicians have been advised that Protamine Zinc Insulin, Squibb, is now available. The new form of treatment which this new preparation now makes possible has been declared the most notable advance in the treatment of diabetes since the discovery of insulin in 1921.

Protamine Zinc Insulin is slowly absorbed and the duration of action of a single dose is about three to six times that of unmodified insulin. For most patients, one injection a day is adequate. It is indicated chiefly in those diabetics particularly difficult to control with unmodified insulin because of the frequency of hypoglycemic reactions and the necessity for several daily injections of insulin. However, because it is slowly absorbed Protamine Zinc Insulin is NOT recommended in cases of diabetic coma, in diabetes complicated by infection or in the event of surgical operation.

Protamine Zinc Insulin, Squibb, is marketed under license from the Insulin Committee, University of Toronto. It is supplied in ten cc. vials ready for use. The preparation appears milky because the insulin is in suspension. Each cubic centimeter, after it has been brought into uniform suspension, contains forty units of insulin together with protamine and 0.08 mg. of zinc. It is stable in the cold for not less than six months and should not be used after the expiration date stamped on its wrapper. Protamine Zinc Insulin should be administered only subcutaneously.

It is the prediction of a renowned authority that as a result of the new treatment now available, severe diabetics will improve, the benefits of insulin therapy will be extended to larger numbers of mild diabetics, complications will be reduced and more lives of diabetics will be prolonged and maintained in comfort.

International Conference on Fever Therapy

In conjunction with the International Conference on Fever Therapy to be held at the Waldorf-Astoria hotel on March 29, 30 and 31, 1937, there will be a scientific and commerical exhibit staged.

The clinics will be held at the College of Physicians and Surgeons, Columbia University, New York City.

A large attendance of fever therapists from all over the world is expected. A very interesting and instructive program has been arranged and all of those who plan to attend the conference are urged to register promptly with the general secretary, Dr. William Bierman, 471 Park Avenue, New York City. The registration fee is $15.00.

A Line to the Doctor's Wife

Luzier's, Inc., makers of fine cosmetics, make a logical plea for the patronage of "the doctor's wife" through page advertisements now appearing in The Journal. In the words of the manufacturers, "we offer you cosmetics of (1) unexcelled quality that (2) are selected to suit your requirements." And satisfaction is assured under a money-back guarantee. Feminine members of the doctor's household should be particular to obtain the best in cosmetics.

ABSTRACTS : REVIEWS : COMMENTS *and* CORRESPONDENCE

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M.D.
911 Medical Arts Building, Tulsa

Ocular Signs of Thrombosis of the Intracranial Venous Sinuses. Frank B. Walsh, M.D., Baltimore. Archives of Ophthalmology, January, 1937.

Comment is made regarding the disagreement as to the cause or mechanics of producing ocular signs of the thrombosis. The pathology and anatomy of the structures is reviewed.

Clinical and autopsy findings at Johns Hopkins Hospital of septic thrombophlebitis of the cavernous and lateral sinuses supplied the source of the following observations.

Exophthalmos and chemosis were more often bilateral and the chemosis was proportionate to the exophthalmos.

Edema of the lids is due to the presence of an infection rather than an obstructed vascular system. In a fulminating thrombosis which usually occurs from an anterior infection, the edema is usually marked. The upper lid is usually swollen more than the lower lid. Infection of the antrum or ethmoid may also cause swelling of the lower lid.

Paralysis of the extra-ocular muscles on the affected side occurs early in fulminating thrombosis as does also ptosis. According to Parsons the first sign of involvement of the second eye is paralysis of its external rectus.

Paralysis of the sixth nerve may be accompanied by pain in the face and behind the eye which indicates fifth nerve complication. The sixth nerve paralysis indicates an extension of the infection by way of the inferior petrosal sinus. This refers to the lateral sinus thrombosis.

Nystagmus was not present in any of the author's cases.

Many times there is no corneal change, but increased sensitivity, anaesthesia, cloudiness and necrosis may be noted.

Ophthalmic signs of thrombosis of the cavernous sinus are engorgement of the veins and a low grade papilledema. Benedict noted the late appearance of these signs. They are of little aid in making the diagnosis.

It is hard to obtain a true record of visual acuity or the visual fields.

Six cases are reported with the clinical histories and autopsy notes. Necrosis of the hypophysis was present in five of these cases.

Primary thrombosis of the longitudinal sinus begins in the middle fifth. In chlorosis, and similar diseases of infants, the incidence is the greatest. If the obstruction is great, blood may appear in the spinal fluid. Cortical irritation may be present with Jacksonian convulsions. Motor involvement of the lower extremities may occur. Frequently there is a conjugate deviation of the eyes. Prognosis is very poor if the infection is an extension from the lateral sinus. Doyle's description of this is given under three different subdivisions.

A discussion of papilledema in thrombosis of the lateral sinus is given. Dill and Crowe reported thirty cases; papilledema was present in twelve of the cases; in ten of the twelve it was bilateral. Bilateral papilledema occurs with increased intracranial pressure, it is pretty generally agreed.

Woodhall's recent investigations with the relationship between increased intracranial pressure and thrombosis of the intracranial venous sinuses is discussed. Possible reason for error in the Tobey-Ayer modification of the Queckenstedt test is given.

Masked Sinusitis as a Cause of Obscure Fever. Arthur R. Sohval, M.D., and Max L. Som, M.D., New York. Archives of Otolaryngology, January, 1937.

Nine cases are reported with fever from one week to two and one-half years duration; etiology unknown. Local symptoms were practically absent; constitutional symptoms were present, which tended to more diagnostic confusion. The ages of the patients varied from nine to forty-two years, with the majority in the early decades.

Some of the previous diagnoses on these patients were: infectious mononucleosis, rheumatic fever, bacterial invasion of the blood stream, subacute bacterial endocarditis, carbuncle of the kidney, epidemic encephalitis and endemic typhus fever.

Most confusing of the symptoms were chills, lymphadenopathy and splenomegaly.

The rhinologist must be particularly alert when examining a patient of this type for according to the author, many times the findings are practically nil. The usual signs and symptoms such as streaks of purulent secretion in the regions of the natural openings of the sinuses, tenderness in the region of the infected part and polypoid degeneration of the turbinates were seldom found in the cases reported.

Translumination of the antrum is listed as a valuable aid to diagnosis but not entirely dependable.

Pathologic and roentgenologic findings do not always show a reciprocal relationship.

The author places his chief reliance for diagnosis on irrigation with a sterile, warm, saline solution. He likes a yankauer cannula; preliminary cleansing is done with suction. Sometimes the exudate obtained is small in amount because the membrane has become so thickened that the capacity of the sinus is markedly reduced; the amount obtained depends also on the time when the irrigation is done.

Intranasal and roentgenographic examination and translumination may be negative and irrigation yield quite a large quantity of pus. Staphylococcus aureus was the most frequent organism found on culture.

If repeated irrigations do not clear the antrum

of the infection, then an intranasal antrotomy is done.

In ethinoiditis the author uses vasoconstricting nasal sprays and steam inhalations in treatment.

In all the cases reported, except one, headache was a symptom which the previous diagnosticians had regarded as accompanying the febrile state, rather than considering it as a symptom of a possible sinus infection.

An Unusual and Interesting Case Report. Ralph E. Russell, M.D., Ocala, Fla. The Eye, Ear, Nose and Throat Monthly, January, 1937.

A female, colored, age twenty. Married at age of fifteen; mother of three children—one born during the present illness; past history negative.

The illness started in the summer of 1932 with pain in the upper left teeth and swelling of the gums. Six months later there appeared a growing mass in this region and the pain stopped. For the next two and one-half years the mass continued to increase in size, despite various treatments. The author saw her at this time and found a pedunculated tumor originating in the left antrum. Photograps are shown of the growth at this time and again two months later, at time of operation, and also four months after operation. For two months previous to operation she was hardly able to take any nourishment and consequently was very emaciated. One week after her child was born, the growth was successfully removed. The pathologist reported a benign myxofibroma.

Bilateral Acute Mastoiditis with Many Complications—Recovery. C. A. Hutchinson, Bath. The Journal of Laryngology and Otology, January, 1937.

The unusualness of this case and the tremendous recuperative powers of a seriously sick child tend to make this a most interesting report.

A little girl, age six years and four months, when sent to a military hospital in the hills of India, had a high temperature for seven days. She had an acute mastoiditis of the right side and the face on that side was partially paralyzed.

A conservative mastoidectomy was performed; her temperature dropped but did not reach normal. On the tenth day when the author was called in consultation he found the patient with a swelling (abscess) in both forearms and mild chills. Her temperature was 99.6 degrees, pulse 124, operative wound apparently healing nicely, but no evident signs of intracranial complications.

The patient responded immediately to the advised treatment of a fluid diet, hot packs to forearms and injections of antistreptococcal serum, alternating with quinine given intramuscularly. Unfortunately these injections were discontinued, which resulted in the child's temperature fluctuating from 101.4 degrees to 104 degrees during the next ten days. A definite rigor also occurred. Since malaria was suspected by the local doctors, quinine by mouth was given, with little results, but the serum was not repeated.

The patient was removed to the author's care at Rawalpindi on the twenty-fifth day. After examination and radiograph it was considered advisable to reoperate the mastoid. The mastoidectomy wound was reopened. A perisinus abscess was found and drained. The newly found infected bone was removed. The sinus was opened, a thrombus removed, and curetted in both directions. Packings were placed in the lumen of the sinus.

Rectal saline with glucose and bicarbonate were given. The report on the pus from the sinus read, "staphylococcus in pure culture." The wound was dressed for two days under gas.

On the thirtieth day meningitis symptoms appeared, while the paralysis of the face showed improvement. Lumbar punctures were performed. The abscess on the right forearm was lanced and drained. Seven days later the meningitis symptoms were much less and the facial paralysis much less evident. An abscess on each buttock, at the site of the quinine injections, was incised.

On the fortieth day a conservative mastoidectomy was performed on the left side and the pus from this showed "streptococci grown."

The patient began to improve. A slight congestion of the right lung cleared with the usual treatment.

The temperature started to swing again and new complications were feared. As no other signs could be found, the patient was treated as a malaria case.

On the seventieth day the paralysis of the right side had entirely gone, the right mastoidectomy wound nearly healed and the left mastoidectomy wound completely so, and hearing was good in both ears.

Dry-Ice (Carbon Dioxide Ice) Burn of the Throat. Dr. Philip S. Stout, Philadelphia. The Laryngoscope, December, 1936.

A white boy, fifteen years old, accidentally sucked a piece of dry ice into his throat. He immediately gagged and vomited the ice. He suffered great pain and burning in his throat. His face was red and swollen. The home remedy administered was olive oil, egg whites and milk which was swallowed with great difficulty. Later, When Dr. N. A. Karakashian saw him he found the pain much greater than the appearance of the throat warranted. The patient could not swallow his own saliva.

Three days later when the patient was referred to the author, he was still in pain, swallowing with great effort; his diet consisting of liquids and his face still somewhat swollen.

Examination showed no blebs, or blisters, but looked slightly mottled. The following day a direct laryngoscopic examination showed a slight pallor on the posterior wall down near the larynx. Sedatives were given to relieve the painful swallowing which lasted about a week. He finally recovered.

Carbon dioxide ice is used not only for cold packing but also in the manufacture of golf balls to freeze the core in the center of the ball. Five workers have filed claims alleging neuritis of arms and hands. Skin can easily be destroyed by this ice. Cancer has occurred in mice after applying CO^2 snow. It was used in treating skin cancer about twenty-five yars ago.

So far a case similar to the above has not been found in the literature.

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from LeRoy Long Clinic
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Tuberculosis of the Breast. By John L. Keeley, Madison, Wis. Annals of Surgery, February, 1937, Pages 169 to 177.

The researches of the author indicate that Sir Astley Cooper wrote about "scrofulous swelling of

the bosom" in 1829, the conclusion being that "this term was descriptive of the advanced type which was brought to the attention of the earlier clinicians and which was often associated with obvious tuberculosis in other organs."

Virchow was a skeptic about tuberculosis of the breast, but Lanceraux, in 1860, established its existence by microscopic study.

The incidence is not great—probably one per cent or two per cent of breast tumors.

"The cases are classified as primary or secondary."

The primary type is produced by direct entrance of tubercle bacilli through the broken skin covering of the breast. Reference is made to a report by Ely of a case where linen soiled by tuberculous sputum had been used as a covering for the breast.

The secondary type is produced by invasion by way of the lymphatics coming to the breast from a primary focus. The author doubts that there might be hematogenous invasion.

Many more cases are found in the female than in the male.

The larger number are between twenty and forty years of age.

It is believed that the doctrine of Rokitansky that tuberculosis and carcinoma do not co-exist in the same tissue has been disproved, the author citing several reports which apparently show such co-existence.

The lesion in tuberculosis of the breast is most often unilateral.

In most instances the discovery of a lump in the breast was the first indication of abnormality. Pain is not a common symptom.

The author speaks of a "nodular type" where the lesion "tends to remain localized," and of a "confluent type" where there is coalescence of more or less numerous foci. "The intraglandular cold abscess is a varaition of the confluent type and represents a more effectively walled off process."

Without referring to type the author says: "The over-lying skin may resemble the orange peel change seen in carcinoma. It exhibits, first, the oedema and discoloration of lymph and venous stasis. Later, as sinus formation is imminent, redness and heat are added to the picture which is then more characteristic of inflammation."

As indicated by statistics, early invasion of lymph glands in axilla is demonstrable in about half the cases—probably more.

In connection with diagnosis, Morgen is quoted as follows: "The clinical findings are not always sufficient to aid the physician to make a correct diagnosis. A lump in the breast of long duration not associated with pain or retraction of the nipple but associated with glandular enlargement is very suggestive. If to this is added the presence of a fistula discharging a gritty caseous material one can fairly safely make the diagnosis of breast tuberculosis."

The treatment is surgical, and is listed as follows: (1) curettage of sinuses; (2) cauterization of sinuses; (3) excision of the tumor; (4) excision of the tumor and the breast; (5) excision of the axillary nodes; (6) excision of both the axillary nodes and the breast.

There is a detailed report of four cases, all in females, the pre-operative diagnoses being "chronic mastitis," "mammary tuberculosis," "carcinoma of the breast," and "adenofibroma of the breast."

The author concludes that tuberculosis of the breast is not as rare as it is thought to be; that it occurs in many individuals who show no other tuberculous lesion; that the diagnosis is not often made before operation; and that recurrences after proper surgical operation are rare.

COMMENTS: Some years ago a woman about thirty-five years of age came to us with a note from her family physician and a telegraphic report that is not in existence now. The telegraphic repoft read "sarcoma."

The family physician wrote us that for some time there had been a swelling with a livid surface in front of the anterior axillary fold. It finally "broke through" and he had curetted it. The material was sent to the laboratory, and he had received the report indicated above.

LeRoy Long, Jr., was able to secure the slides. He did not believe it was sarcoma. The tissue was sent to another pathologist. He reported "tuberculosis."

In this case there was a sinus at about the upward outer extension of the breast. After a wide incision the defect was filled with a ten per cent suspension of iodoform in oil, followed by suture without drainage. There was rapid and permanent recovery.

As indicated, the lesion in the case of this patient was at the margin of the breast. In a case with more central involvement we would advise removal of the breast. LeRoy Long.

The Differential Diagnosis of Ectopic Gestation by Peritoneoscopy. By Robert B. Hope. Surgery, Gynecology and Obstetrics, February 1, 1937. Pages 229 to 235.

There is a brief discussion of the difficulties of diagnosis in ectopic gestation.

"Many cases of intra-uterine pregnancy that have been 'spotting' or bleeding, accompanied by some pain in the lower abdomen, have been subjected to a laparotomy because the physician felt that this was the safest procedure. It is in these particular instances that we feel peritoneoscopy is of value; for by this procedure we have a method of actually seeing the uterus, fallopian tubes, and ovaries. This procedure is done under local anesthesia and requires but twenty-four hours of hospitalization. Should the peritoneoscope determine that the patient has intra-uterine pregnancy, the danger of aborting is less likely than following a laparotomy. The patient may return home for expectant treatment, with a saving of several weeks of hospitalization for post-operative care and of much discomfort, as well as a saving of money. If, on the other hand, an ectopic gestation is seen, immediate laparotomy is done. Both the physician and patient are thus saved the time, worry, and possible risk of delay by indecision."

The technique of peritoneoscopy is carefully given and ten case histories are presented to show the value of the procedure in this field.

COMMENTS: This is an interesting piece of work and deserves our consideration. However, there remains considerable question as to the practical adaptability of this procedure in ectopic gestation. Wendell Long.

Results with the Intra-Uterine Stem Pessary. By William H. Weir, Cleveland, Ohio. The American Journal of Obstetrics and Gynecology, February, 1937, Pages 291 to 300.

The author has written this paper because of the widespread opinion that a stem pessary is a very dangerous contrivance and quite likely to pro-

duce pelvic inflammation. He fells that most critics are without personal experience and are usually echoing tradition which has been handed down. It is his conviction that this is one of the older well tried methods and that it is too valuable to be discarded.

The rationale of the use of a stem pessary as considered by this author is well given in the following quotation:

"The purpose of the stem is to overcome a possible obstruction, first, by mechanically straightening out any flexion, and second, by maintaining the internal os and cervical canal somewhat dilated and patulous so long as the stem is worn, and to some extent this will usually be permanent.

"Its most important function is to stimulate the normal slow rhythmic contractions of the uterus, which induces a much better blood supply, the most rational treatment possible for a small, poorly developed muscular organ. That the uterus is constantly working to expel the stem is shown by the way a suture, used to hold certain varieties of pessaries in place, will gradually cut through a wide area of dense cervical tissue. The improved blood supply is evident from the increased menses which, in a few cases, may become too excessive."

The author gives as the ideal case for the use of a stem pessary the following:

"The ideal case for the use of a stem would be a young nulliparous woman with severe dysmenorrhea, or with scanty, delayed periods or even amenorrhea. Sterility in the married is also an indication. On examination she would show an undersized, movable, sharply anteflexed uterus with no suggestion of cervical or adnexal inflammation, and no history of previous pelvic inflammation. The age is important, for the younger the patient, the more likely is the uterus to resume its interrupted development. A rather similar anatomic condition may be found in hyperinvolution after delivery."

There then follows a discussion of the borderline situations in which the author feels that a stem pessary may satisfactorily and safely be employed. He does not allow rigidity to deter him in the use of stem pessary provided the genitals can be mobilized under an anesthetic and provided there is no definite evidence of infectious disease of the adnexa.

He warns against the use of a stem pessary as a contraceptive device because there are more satisfactory and less risky measures available.

The method of inserting the stem pessary is then thoroughly described, including the care of the patient at the time and afterward. He feels that it should be placed only under an anesthetic, following thorough mobilization of the genitals and dilitation of the cervix. The stem pessary should be about one-half inch shorter than the total length of the uterus. He feels that the stem pessary should be allowed to remain in place for at least six months.

The author reports his results by the use of a stem pessary, following dilatation and curetting, in three hundred and eighteen consecutive cases during fifteen years time prior to 1935. All were private patients and were under his personal care.

"In two hundred and thirty-four patients, the chief complaint was dysmenorrhea. Of these, one hundred and fifty-three, or sixty-five per cent, obtained practically complete relief; forty-six, or nineteen per cent, were partially relieved. In nineteen, or eight per cent, the relief was not realized fully till after the removal of the stem. No relief was obtained in sixteen, or 6.8 per cent. A number of this last group had unusual complications such as uterine fibroids, cystic ovaries, etc.

"Sterility was complained of in 150 cases, usually with dysmenorrhea as well. Without a complete follow-up, forty-eight, or thirty-two per cent, are known to have become pregnant. It is impossible to say how much credit is due the stem in these cases, but I think it certainly helped.

"Marked irregularity of the periods, from every two weeks to every three months occurred in nineteen cases. Of this number, eleven had regular periods for as long as two years after operation.

"Seven patients had amenorrhea. One, aged twenty-two had never menstruated but became perfectly regular after the use of a stem. Five had periods of amenorrhea of three to six months and three of these became regular.

"A stem pessary has been used by me in a total of eight hundred and eighty-two cases, three hundred and eighteen of which are here reported. No examination of the records of the others has been made but I can recall but one serious complication, the development of pyosalpinx two months after the removal of the stem. Probably the stem was not responsible in this case."

COMMENTS: The author's enthusiasm for the use of the stem pessary would seem apparently far too extreme. However, his contention that it is a valuable method in selected instances and that it should not be entirely discarded is well founded.

Upon the basis of careful selection, this method will but infrequently be employed. However, because it has been found to be a dangerous and inadequate method in a multitude of conditions for which it was formerly used, I agree with the author that it should not be discarded in a very carefully selected group of patients. Wendell Long.

PLASTIC SURGERY

Edited by

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Tumors of the Hand. By Michael L. Mason, M.D., F.A.C.S., Chicago, Ill. Surgery, Gynecology and Obstetrics, February, 1937.

This very fine essay is in my judgment quite characteristic of the good work being done by the Drs. Kanavel, Koch and Mason. The author points out that the hand is the site of a great variety of tumors, many quite rare, some appearing almost exclusively on this extremity, and still others which are common to all regions of the body. He also points out that while most tumors of the hand are benign, there are a few of them which present simple therapeutic problems.

Some tumors require a long tedious dissection and the resulting defect left after removal often requires an extensive plastic operation consisting of a full thickness skin graft or pedunculated flaps.

1. GANGLION: The author points out that the site or occurrrence of this tumor is: first, dorsal carpal region; second, volar surface of the wrist; third, dorsal surface of the fingers and finally within the substance of the tendons. The author prefers surgical removal of these tumors taking pains to remove the tissues from which the ganglion springs. He prefers a transverse incision for the removal of ganglia.

2. EPIDERMOIDAL CYST: The epidermoidal

or implantation cyst is most frequently found on the volar surface of the hand and fingers. The tumor is made up of a cavity filled with cholesterol and horny debris surrounding a wall of epithelium. It is believed that the tumor may be either congenital or traumatic. Treatment: complete excision.

3. SEBACEOUS CYST: True sebaceous cysts of the hand are quite rare and are probably in reality epidermoids.

4. XANTHOMA: The true nature of this tumor is not known. It is made up of variably sized lobules of yellow, orange, brown and gray tissue bound together by fibrous septa and surrounded by thin but definite capsule. Microscopically, the tumors contain four types of cells; giant cells of the epulis type containing from two to several hundred nuclei, spindle cells resembling fibroblasts, larger round cells, and finally the foamy cell, a larger polyhedral cell with one or two pyknotic nuclei and a pale vesicular cytoplasm.

Treatment: Complete surgical removal.

5. FIBROMA: These may be superficial, subcutaneous or deep.

6. LIPOMAS: Of the hand. These are not frequently found on the hand. They may be superficial or deep. They may produce symptoms according to their locality and size. They may be very easily removed or may be quite difficult if rather large and deeply situated.

7. TELANGIECTATIC GRANULOMA: The exact etiology is not known. It was formerly thought to be due to botryomycotic infection. It has marked tendency to hemorrhage and the granulomatous cap differentiates it from the ordinary nevus and angioma.

Treatment is complete removal.

8. SUBUNGUAL TUMORS: These are both benign and malignant. The subungual melanoma or the "melanotic whitlow" is one of the most frequent. About fifty per cent of the cases presented a history of injury six months to a year preceding the tumor. Others began as a mole which may remain unchanged for years and may without any evidence undergo malignant changes. Finally there is presented an ulcerating process which lifts up the skin and the nail and eventually replaces the nail bed with a black fungating ulcer. The best treatment is surgical removal and the removal of the axillary lymph glands. Some cases have survived as long as four years.

9. SUBUNGUAL EXOSTOSIS: Quite frequently are seen on the foot. It is rarely on the hand. Treatment is removal with the least damage to the nail bed.

10. THE GLOMUS TUMOR: It is being discovered that this is not a rare tumor at all. It develops from neuromyoarterial glomus which is an arteriovenous anastomosis fairly well supplied with nerve fibers of the skin especially of the extremities. The tumor known as the glomus tumor is an enlargement of this structure and it is a question whether it is, in fact, a true neoplasm. Following trauma or more frequently without such a history, the patient complains of attacks of pain, confined at first to the finger or the finger tip, often without any evidence of trouble; finally a bluish fleck or nodule is noticed under the nail. At this stage pain tends to radiate up the arm.

Treatment: Removal of the tumor.

11. METASTATIC TUMORS: Of the nail bed are of great rarity. The author presents a picture of one, a chronic epithelioma in a male with a tumor of the testis.

12. CARCINOMA: Most frequently located on the dorsum. The majority are squamous cell lesions. Most give some history of some irritative factor: exposure to irradiation, radium, sunlight, scars, chronic infection, chemicals, such as acids alkilis, tar, pitch, gas, grease paint, internal medication, etc.

Treatment: In the most cases local excision will suffice. In others, excision followed by skin graft and the more advanced, amputation with dissection of epitrochlear and axillary glands.

13. CHONDROMA: This tumor usually occurs on the shaft of the metacarpal or phalanx. The patient is usually under thirty years of age. The tumor is usually removed from the surrounding bone by curette. X-ray findings are quite definite and help to differentiate the tumor from the giant cell tumor. Likewise the x-ray differentiates bone cyst, sarcoma, metastatic carcinoma and myeloma.

Treatment: Consists of complete removal followed by cauterization of the cavity with Zenkers solution or fifty per cent zinc chloride.

14. PERIOSTEAL TYPE OF CHONDROMA: As the name implies this tumor is attached to the periosteum and may invade the cortex.

15. GIANT CELL TUMOR: This tumor is usually met with in the metacarpals. It may be confused with chondroma. X-ray easily distinguishes it from the enchondroma. The giant cell tumor has a peculiar soap-bubble appearance in that numerous trabeculae run through the tumor and divide it into many small translucent areas.

Treatment: Is that of chondroma.

16. ANGIOMA: Classification: Angio-blastic, telangiectatic, cavernous and vessel type. The treatment of each of these groups is discussed in detail.

17. CONGENITAL LYMPHANGIECTASIS: Treatment is quite unsatisfactory though the Kondoleon operations had been used with some success.

18. TUMORS OF THE PERIPHERAL NERVES: These tumors are not as rare as formerly supposed. They may assume many different forms. Care must be exercised in removing tumors of this type so as to preserve all other structures if possible.

Malignant tumors of the peripheral nerves must be removed widely. Amputation is not infrequently called for.

COMMENT: Anyone interested in surgery of the hand should read the above abstracted article. It is one of the finest and best written articles I have ever accounted.

INTERNAL MEDICINE

Edited by C. E. Bradley, M.D., Medical Arts Building, Tulsa; Hugh Jeter, M.D., 1200 North Walker, Oklahoma City

By Hugh Jeter, M.D., F.A.C.P., A.S.C.P.

The Problem of Rheumatism and Arthritis. Review of American and English Literature for 1935. (Third Rheumatism Review.) By Philip S. Hench, M.D., F.A.C.P., Rochester, Minn.; Walter Bauer, M.D., F.A.C.P., Boston; A. Almon Fletcher, M.D., Toronto; David Ghrist, M.D., F.A.C.P., Los Angeles; Francis Hall, M.D., F.A.C.P., Boston; and T. Preston White, M.D., Charlotte, N. C. Annals of Internal Medicine, Vol. 10, No. 6, December, 1936.

In this the authors have again reviewed the annual publication on all subjects relating to rheumatism and arthritis including six hundred articles

and seventeen text books. This is a brief but a very comprehensive review consisting of about 130 pages. Many interesting and very constructive comments are made by the authors.

The amount of material covered is indicative of the interest recent investigations have provoked in connection with the study of this very important and enormous field of medicine. There is evidence of a broadened view of the problem of rheumatism. It is suggested that the general practitioner is becoming increasingly aroused by the various methods of study and treatment of forms of rheumatism.

It is impossible to summarize herein this entire article, but the following classifications which the committee on arthritis is using, will serve as a helpful working basis for study and will also indicate the enormous amount of material reviewed in this article, and in so doing supply the readers with a reference to a complete review as well as the entire bibliographic material appended.

OUTLINE OF CONTENTS

Introductory.
- General incidence and occupational distribution.
- Classification of diseases of joints and related structures.

Diseases of articular and peri-articular tissues related to trauma.

Diseases of joints due to infection of known type.
- Gonorrheal arthritis and tenosynovitis.
- Tuberculous arthritis.
- "Tuberculous rheumatism."
- Pneumococcal arthritis.
- Syphilitic arthritis and Charcot's disease of joints.
- Undulant fever.
- Purulent arthritis.
- Typhoidal arthritis and spondylitis.
- Arthritis with chronic ulcerative colitis.

Rheumatic fever.

Sydenham's chorea.

Chronic arthritis.
- Introductory; incidence.
- General remarks on etiology.
- The two great types—relationship and differentiation.
  1. Atrophic arthritis.
  2. Hypertrophic arthritis.
  3. Backache, spondylitis, and sciatica.
     - Intervertebral disks and vertebral joints; "newer anatomy and pathology."
     - Atrophic spondylitis.
     - Hypertrophic spondylitis.
- Gout and gouty arthritis.
  - Cinchophen toxicity.
  - The uric acid problem.
- Psoriatic arthritis.
- Hemophilic arthritis.
- "Allergic," "metabolic," and "endocrine arthritis."
- Miscellaneous types of joint disease.
- Diseases of muscles, fibrous tissue, and bursae.
- Miscellaneous conditions.
- Physiology of articular tissues.

The classification adopted by the Subcommittee on Nomenclature of the British Committee on Chronic Rheumatism is also given in this article and seems to warrant repetition in this abstract.

Group 1. Rheumatic fever, acute (Syn.: "Acute Rheumatism") or subacute.

Group 2. Acute gout.

Group 3. Chronic arthritis.

A. Rheumatoid type ("atrophic; proliferative").
   1. Specific causation. Known etiology.
      (1) Gonococcal arthritis.
      (2) Tuberculous arthritis.
      (3) Syphilitic arthritis.
      (4) Arthritis following other specific infections such as dysentery, scarlet fever, rheumatic fever.
   2. Nonspecific causation. Unknown etiology.
      (1) With known associated factors.
         a. Metastatic or "focal" arthritis, including so-called "multiple infective arthritis."
         b. Associated with disordered metabolism (e. g., gout).
         c. Climatic arthritis (villous type).
      (2) With no known associated factors.
         a. Classical type of rheumatoid arthritis of women, usually of childbearing period.
         b. Rheumatoid arthritis in children, including Still's disease. The term "rheumatoid arthritis," when utilized, should be confined to the above two conditions, all other forms being designated "rheumatoid type."

B. Osteo-arthritis type ("hypertrophic;" "degenerative."
   1. Known etiology.
      (1) Secondary to trauma.
      (2) Secondary to arthritis of rheumatoid type.
      (3) Associated with disordered metabolism (climateric, gout, scurvy, hemophilia).
      (4) Associated with organic disease of the nervous system (e. g., Charcot's joints and syringomyelia).
   2. Unknown etiology.
      So-called "senile variety" (e. g., morbus coxae senilis).

Group 4. Non-articular rheumatic affections.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D., F.A.C.S.
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Dislocation and Elongation of the Long Head of the Biceps Brachi. An Analysis of Six Cases. Edgar Lorrington Gilcreest. Annals of Surgery, CIV, 118, July, 1936.

When the tendon slips from its groove over the lesser tuberosity the tension of the biceps is lessened and the tendon becomes relaxed, producing the classical bicipital syndrome. The dislocation may be acute, recurrent, or gradual; in the first two types the disability is rapidly disabling. The mechanism of production is brought about by force applied by the arm in external rotation and abduction of ninety degrees or more. The tendon may be palpated outside the groove, or the empty groove may be demonstrated.

In recurrent dislocation one can at times reproduce the dislocation by having the patient hold a five-pound weight in the hand with the arm in overhead extension and external rotation. As the arm is adducted, the examiner feels with his fingers a definite snap at the top of the shoulder and along the belly of the biceps as one hundred and ten to ninety degrees of abduction is reached, and the patient experiences a sharp pain in the region of the bicipital groove.

Reduction may frequently be accomplished early by flexion at the elbow to ninety degrees, with the hand in supination; the arm is then abducted to ninety degrees in the coronal plane in internal rotation.

If the patient is seen late, or if there is recurrence, open operation is recommeded, with high severance of the tendon and suture to the coracoid process and to the tendon of the short head.

There is an anatomical consideration, an extensive bibliography, and an appendix. Six cases are analyzed.

Spondylolisthesis: With a Description of a New Method of Operative Treatment and Notes of Ten Cases. Walter Mercer. Edinburg Medical Journal. XLIII, 545, September, 1936.

Mercer believes that in all cases of spondylolisthesis there is a bilateral primary center of ossification in the posterior half of the fifth lumbar vertebra. These usually unite in the region of the isthmus about the eleventh year. Due to trauma or to severe strain, there is a slipping of the epiphysis either with widening of the anteroposterior diameter without sparation, or with actual separation at the isthmus, a prespondylolisthetic state. Mechanical factors, including the shearing action of the upper posterior sacrum on the isthmus, then come into play, tending toward gradual stretching of the soft structures and production of spondylolisthesis. The typical clinical syndrome is described. Points to be noted in the anteroposterior roentgenogram are: (1) a characteristic arc or bow which is the outline of the front of the upper part of the body and transverse process; (2) a bitrochanteric length less than the bicristal length; and (3) an upward tilting of the lamina and spinous process of the fifth lumbar vertebra, which casts an inverted Y-shaped shadow. In the lateral roentgenogram, forward displacement, increase in the anteroposterior diameter of the vertebrae. Ullman's sign of forward displacement, and a gap in continuity of the vertebra should be looked for. Displacement forward is graded by the method of Myerding.

The author reviews the operative methods and presents a new technic in which the anterior approach is used. The intervertebral disc between the fifth lumbar vertebra and the sacrum is resected together with a small part of the lower fifth lumbar vertebra. A wedge of bone from the iliac crest is inserted in the gap and is transfixed by screws slanting obliquely downward through the fifth lumbar vertebra. Of the ten patients whose cases are reported, two were operated upon by the author's method. One died post-operatively, due to superior mesenteric thrombosis; the second became pain-free and had full function with the exception of a stiff lower lumbar region.

Tuberculosis of the Spine with Paraplegia. J. H. Kite. Southern Medical Journal, XXIX, 883, September, 1936.

The history of this condition is touched upon. Twenty cases with paralysis and ninety-six cases without paralysis from the Scottish Rite Hospital for Crippled Children, Decatur, Georgia, are studied. Carefully prepared tables show the age incidence, location of lesions, number of vertebrae involved, duration of disease before onset of paralysis, treatment, time required for recovery, and the results. A significant finding is that the region most frdequently involved in the paralyzed group was from the fifth to the ninth thoracic vertebra, while the region most frequently involved in the non-paralyzed group was from the ninth thoracic to the second lumbar vertebra. "Paralysis is seldom due to bony pressure at the point of angulation, but is due to pressure on the cord from the products of tuberculous inflammation. . . . If the paraplegia occurs shortly after the onset of the tuberculous lesion in the spine, the prognosis is good. If it comes on late, five years or more after onset of the disease, the prognosis is poor." Younger children recover better than the older ones.

Patients receiving adequate treatment early after the onset of paralysis recover better than those who are treated later. Laminectomy in this series did not hasten recovery. The author states that when paralysis has disappeared a spine fusion should be done to cure the tuberculous bone lesions.

This article is a valuable contribution to our knowledge of paraplegia as a result of tuberculosis of the spine.

Committee on Air Conditioning

The Committee on Air Conditioning, appointed by the Board of Trustees, including Dr. Carey P. McCord, Prof. C. P. Yaglou, Dr. Emery Hayhurst, Dr. Henry Williams and Dr. William F. Petersen, held a meeting at the headquarters office of the American Medical Association on November 6 for the purpose of organization and to outline a program of study and investigation. This is a committee of the House of Delegates and will render its report to the House at the next Annual Session. —Journal A. M. A., January 2, 1937.

The Effect of Benzedrine Sulfate on Intelligence Scores

Sargent and Blackburn (Lancet, London, December 12, 1936), conducted an investigation to determine whether the increased confidence and mental alertness reported after the use of 'Benzedrine Sulfate' (benzyl methyl carbinamine sulfate) would be accompanied by any real improvement in general mental efficiency as shown by psychometric tests.

After administration of 20 mg. of 'Benzedrine Sulfate,' Cattell's "intelligence tests" were given. The results showed an increase in score of over eight per cent as compared with previous tests without 'Benzedrine.' The score of a control group receiving placebos remain unchanged.

Individual examinations showed that 'Benzedrine' has more effect on mildly depressed cases than on schizophrenics where personality changes are more profound. Even better results might have been obtained if the dosage had been graded to each patient's requirements.

The authors suggest that the drug may prove useful in certain cases where mental efficiency is temporarily impaired by emotion, anxiety or mild depression.

Studies in Splenopathy: Introduction

Allen O. Whipple, New York (Journal A. M. A., November 28, 1936), describes the function of the Combined Clinic in Splenopathy of the Vanderbilt Clinic and the Presbyterian Hospital since its inception six years ago. They now have studied and

are seeing in their follow-up some two hundred patients with lesions of the spleen. From the standpoint of the care of the patient, teaching and research—the three cardinal criteria of any clinic worthy of the name—the Combined Clinic has everything to recommend it. The patients get more careful study and discriminating opinion as to therapy, because it is the result of agreement among medical and surgical workers, based on mutual follow-up studies. Over-conservatism or radicalism in therapy cannot dominate such a clinic.

Fracture of Neck of Femur: Evaluation of Various Methods Advanced for Treatment

Paul B. Magnuson, Chicago (Journal A. M. A., October 31, 1936), believes that roentgen evidence of reduction in fracture of the neck of the femur can often be misleading if the roentgenogram is taken only at two angles; therefore, roentgenograms at a number of angles should constitute a routine both before and after reduction. If there is any considerable obliquity of the fracture line, visual reduction is preferable, with fixation applied while the fracture is in view. There should be a classification of fracture of the surgical neck as to the line and plane of the fracture; in addition to this, a classification of the fracture as to the amount of displacement occurring immediately after the injury in order to determine whether certain lines and planes of fracture interfere with the circulation more than certain other lines and planes of fracture. The amount of displacement would indicate the amount of tearing of the visceral capsule that might be present, thereby indicating whether this factor should be taken into consideration in making a prognosis. The patient's physical condition, age and weight should be considered before any method of treatment is decided on, and, whatever method is used, anatomic reduction should obtain and the method applied that will maintain the fracture in this position while healing. Of the closed methods, Whitman, Leadbetter-Whitman, and well leg traction have their place in the field of treatment of fracture of the neck of the femur, but from present information, mechanical fixation with three-flange nails, steel pins or bone grafts offer greater comfort to the patient, greater chance of bony union, easier nursing, and less disability following union so far as the joints of the leg are concerned, than any of the closed methods. Regardless of what method is used for maintaining position, close bony contact, anatomic aposition and absolute fixation are the three prime factors in securing better results in fractures of the neck of the femur.

Successful Treatment of Essential Thrombopenia With Hemorrhage by Roentgen Rays

Hillyer Rudisill, Jr., Charleston, S. C. (Journal A. M. A., December 26, 1936), reports that he and his associates have successfully treated seven cases of purpuric and non-purpuric thrombopenia with hemorrhage by irradiation of the spleen with x-rays. The eighth case, which was complicated with acute myeloid leukemia, terminated unfavorably. In spite of the smallness of the series, the author believes that uncomplicated thrombopenia with hemorrhage should be divided into two distinctly different classes; cases of unknown etiology and others from various toxemias. For convenience he has termed these respectively as cases with an excessive S factor (overdestruction of platelets by the spleen) and the others of C factor type (toxic destruction of platelets in the circulation). This division is important from the standpoint of radiation treatment. In the C factor type the spleen's normal function needs only to be lowered until the toxemia is overcome, and from one to three roentgen treatments will usually accomplish this. In the S factor type, unless the patient responds partially to other forms of therapy also it may be occasionally necessary to render the spleen permanently functionless by intensive irradiation. The following were used in all of the treatments: voltage, 200 kilovolt peak; tube current, 4 milliamperes; filter, 0.5 mm. of copper plus 1 mm. of aluminum; roentgens per treatment, 200 measured in air; roentgens per minute, 10; area exposed, anteriorly over the spleen; size of field, 20 cm. circular. The author concludes that roentgen radiation constitutes an exceedingly valuable and possibly a specific therapeutic agent when applied over the spleen in primary or uncomplicated thrombopenia with hemorrhage either with or without purpuric skin manifestations.

Committee on Cosmetic Advertising

By special action of the Board of Trustees an Advisory Committee on Advertising of Cosmetics has been established to aid in determining allowable claims for cosmetic preparations and to advise with the editorial department of the Association in the acceptance of cosmetic advertising. The committee as established includes Dr. Francis E. Senear, Chicago; Joseph J. Eller, New York; C. Guy Lane, Boston; Paul N. Leech, director of the Division of Foods, Drugs and Physical Therapy, and Dr. Morries Fishbein. A preliminary meeting of the committee was held in New York on December 14 at which plans were developed for the routine conduct of this work.—Journal A. M. A., January 9, 1937.

Vitamin Advertising and the Mead Johnson Policy

The present spectacle of vitamin advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

Mead Johnson & Company feel that vitamin therapy, like infant feeding, should be in the hands of the medical profession, and consequently refrain from exploiting vitamins to the public.

Grants for Research: Applications Invited for Aid in Research on Clinical Problems

The Committee on Scientific Research of the American Medical Association invites applications for grants of money to aid in research on problems bearing more or less directly on clinical medicine. Preference is given to requests for moderate amounts to meet specific needs. For application forms and further information, address the committee at 535 North Dearborn Street, Chicago.—Journal A. M. A., January 2, 1937.

Committee on Asphyxia

Pursuant to the action of the House of Delegates at the 1936 annual session in Kansas City, the Board of Trustees has appointed a Committee on Asphyxia including Paluel J. Flagg, New York, chairman; John S. Lundy, Rochester, Minn., and Thomas J. Vischer, Germantown, Philadelphia. The committee held a preliminary meeting for the organization and for an outlining of its activities in the headquarters office of the Association on December 5. As the work progresses, further announcements will be made.—Journal A. M. A., January 9, 1937.

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Meeting Place, Tulsa, May 10, 11, 12, 1937.

Delegates to the A. M. A., Dr. McLain Rogers, Clinton, 1936-1937; Dr. W. Albert Cook, Tulsa, 1937-1938; Dr. Horace Reed, Oklahoma City, 1937-1938.

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